



GENOS series

1-Saddle CNC Lathes

GENOS L250/L200-M

GENOS L400/L300-M





Welcome to GENOS

GENOS technology carries Okuma's genetic heritage and takes you to the leading edge of global competition.

GENOS—A high-quality global machine for the times. Get one for yourself.



GENOS

1-Saddle CNC Lathes

GENOS L250/L200-M **GENOS L400/L300-M**

Abundant spec variations for high productivity and thorough ease of use from the user's perspective.

Machine shops around the world long for machines like this.

Okuma has faced this challenge head on, resulting in the high quality GENOS global machine.

Okuma's technical genes are found in cutting edge manufacturing that seeks to balance high quality and low cost.

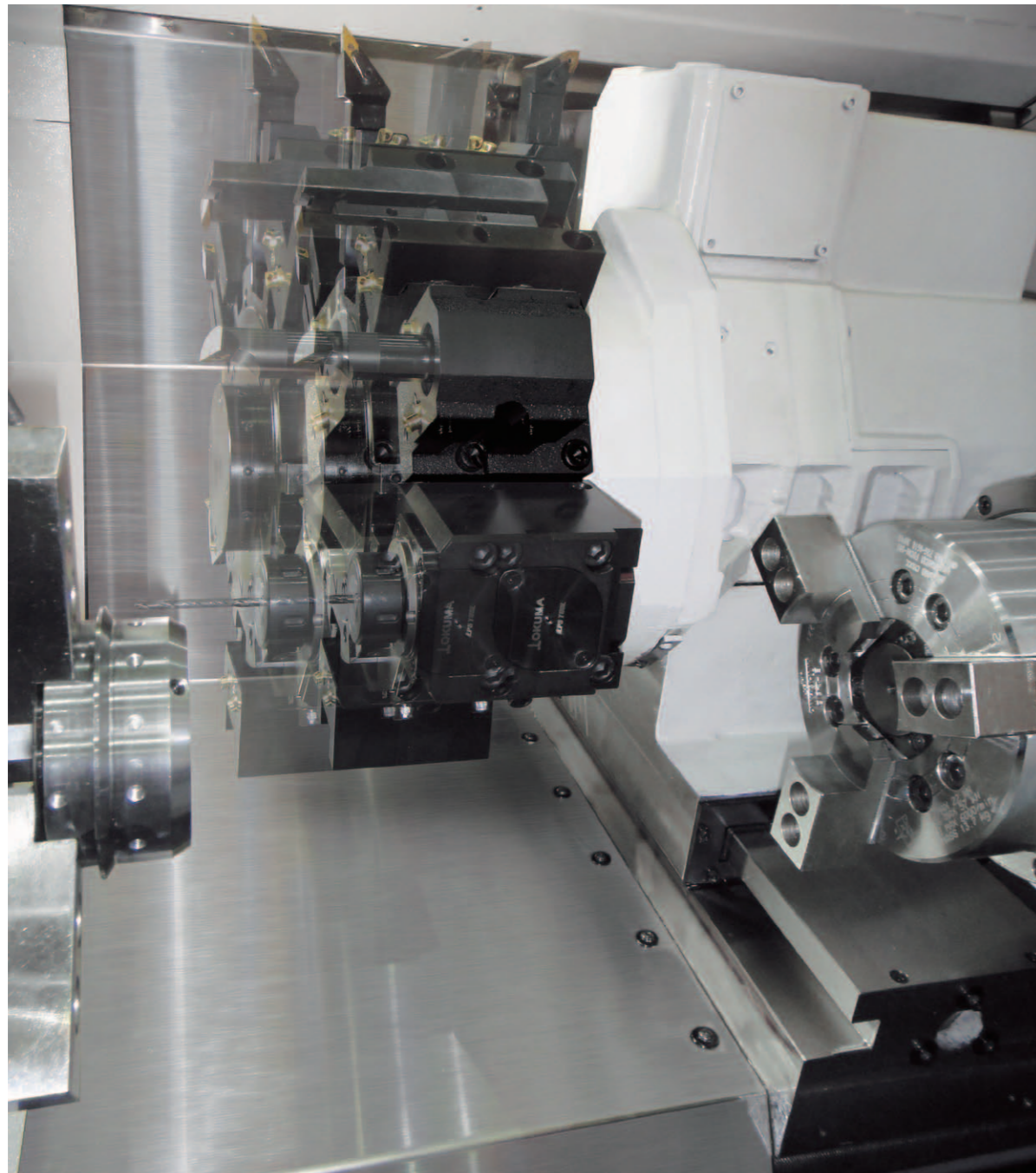


Abundant spec variations available to match your specific application requirements

Diverse specification line-up contributes to increasing users' productivity

Okuma's new global CNC lathe, GENOS L series.

GENOS L series machines are "simple multitasking machines" with superior cost performance. They combine simple machine structures for high quality and ease of use with a rich array of spec variations to handle everything from chuck workpieces to bar material workpieces with complex shapes. They are machines to meet every customer need.



Model specifications

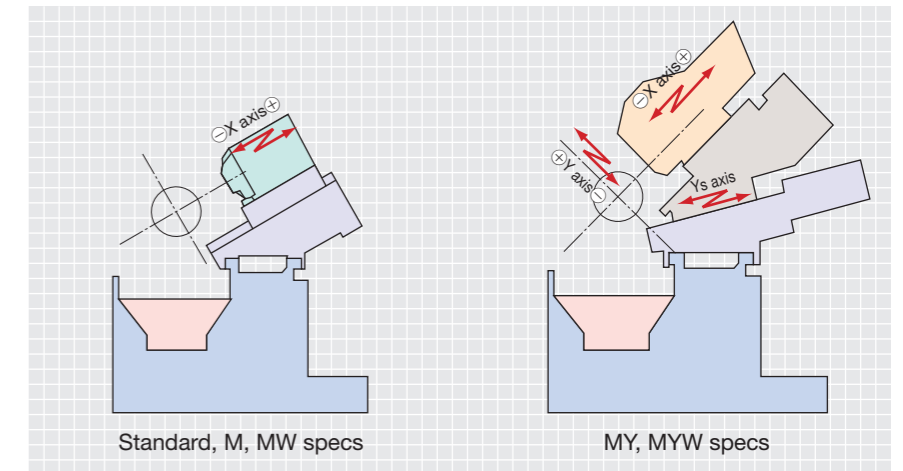
Model	Spindle	Maximum machining length	Multitasking (M specs)	Optional specs ("O" items available)		
				Y axis	Sub-spindle (W axis)	Y+W axis
GENOS L250	A2-6 11/7.5 kW	290/500	No	—	—	—
GENOS L200-M		225/380	Yes	○	—	—
GENOS L400	A2-8 15/11 kW	500/1,100	No	—	—	—
GENOS L300-M		450/1,060	Yes	○*1	○*2	○*2

*1. Max machining length becomes 420/1,020 mm *2. Max machining length becomes 150 mm

Basic structure for Y-axis specs

A variety of milling operations can be accommodated with high-accuracy, wide-range Y-axis travel using a double slide system. Achieves complete multitasking with a single chucking (MY, MYW specs).

- Travels
 - GENOS L200-MY: 80 mm (+30 to -50)
 - GENOS L300-MY, MYW: 100 mm (+50 to -50)



Outstanding dimensional stability

In addition to maintaining high dimensional accuracy when room temperature changes, Okuma's thermal deformation prevention provides high dimensional accuracy during machine startup and machining restart. By stabilizing thermal deformation, warming-up time is shortened and the burden of dimensional correction during machining restart is reduced.

Machining dimensional change over time (actual data)

ø9 μm (room temp change: 8C°)

- Machine startup
- Machining restart
- Room temp change

High dimensional stability

Easy to use, simple machine structure

■ Main spindle

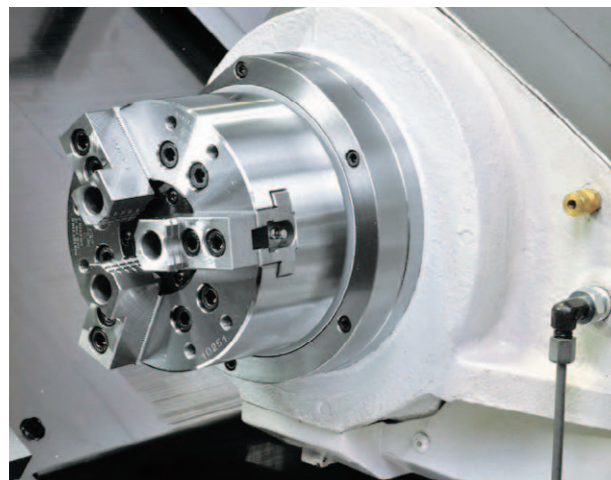
High speed, high rigidity gearless spindle minimizes vibration and heat.



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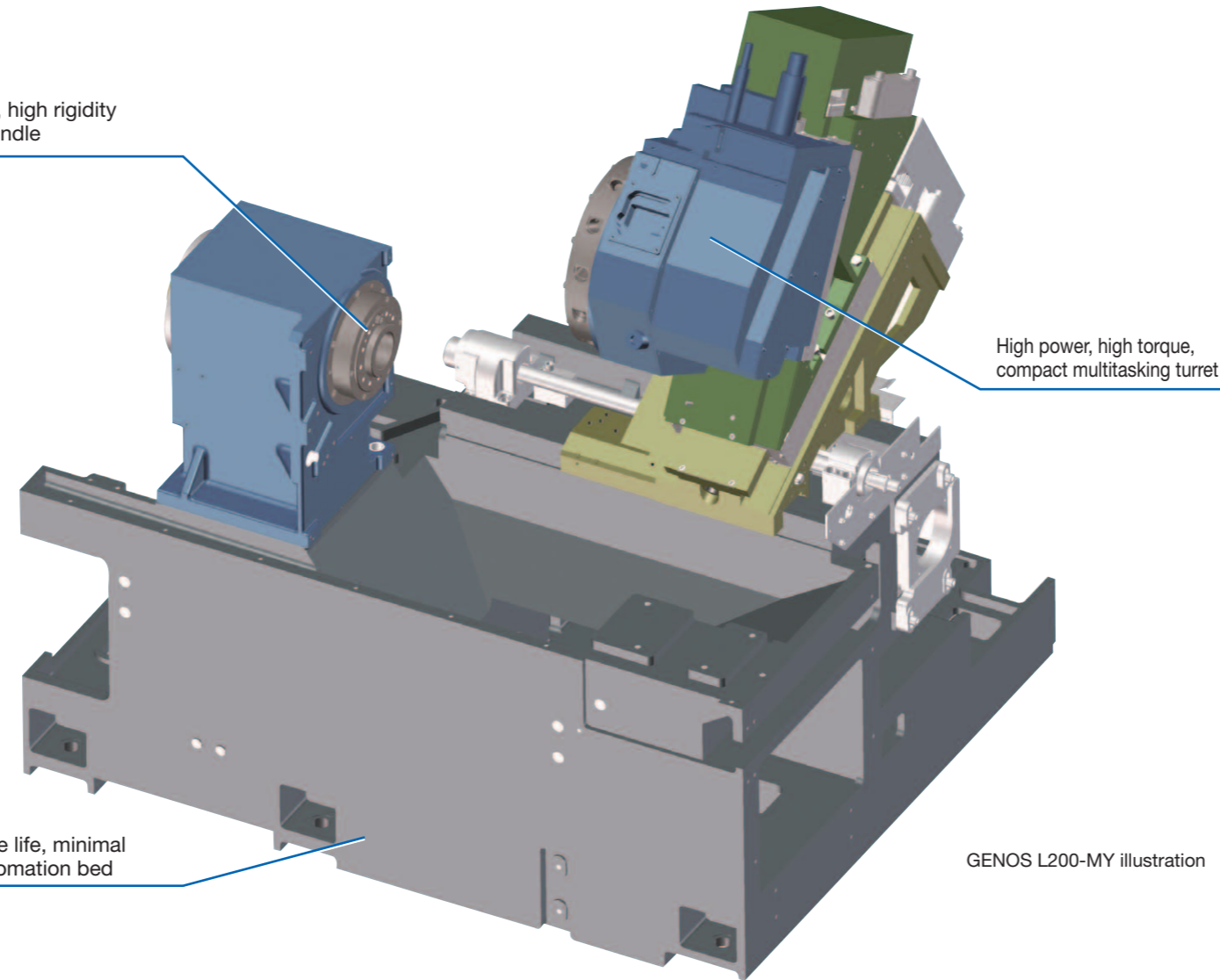
■ Sub-spindle

With these sub-spindle specifications, front and back machining can be done on a single lathe. Interference is not a worry even in back face machining with a multitasking V12 radial turret (MW, MYW specifications).



GENOS L300-MW, MYW

High speed, high rigidity gearless spindle



High power, high torque, compact multitasking turret

Long service life, minimal thermal deformation bed

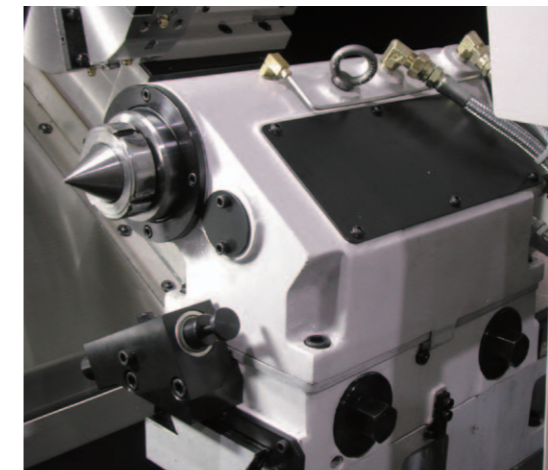
GENOS L200-MY illustration

■ With the GENOS L series you can machine workpieces like these.



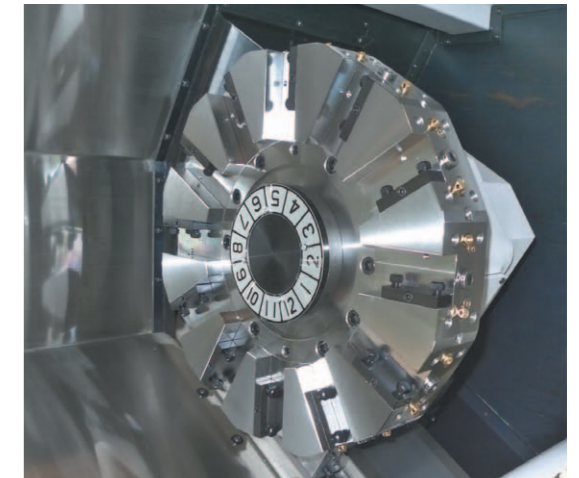
■ Tailstock

Low center height, high stability Hydraulic tailstock.



GENOS L400 MT 5 (dead center)

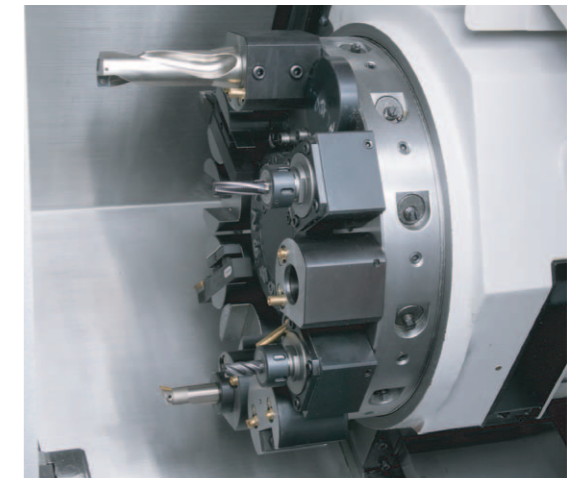
■ Turret



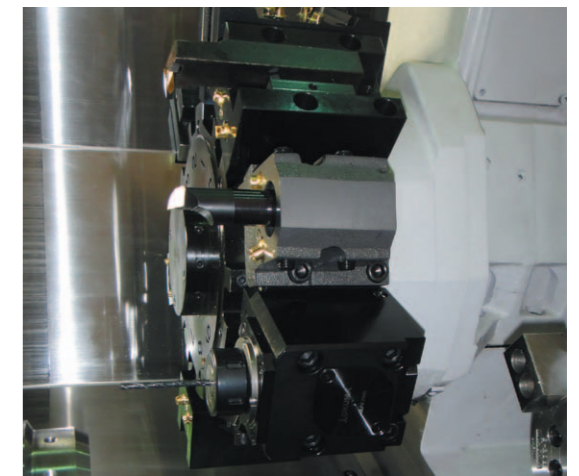
V12 turret

■ Multitasking turret

Compact milling spindle uses high power, high torque PREX motor for much faster multitasking operations.



M-V12 turret (VDI)



M-V12 turret (Radial)

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Machine Capacity and accuracy

Turning capacity [actual data]

GENOS L400 (Material: S45C)

OD heavy cut	3.0 mm²
Cutting speed	120 m/min
Cutting depth	6.0 mm
Feedrate	0.50 mm/rev

Drilling	ø50
Cutting speed	150 m/min
Tool	ø50 insert drill
Feedrate	0.15 mm/rev

Milling capacity [actual data]

GENOS L200-M (Material: S45C)

Chip volume	96 cm³/min
Cutting speed	135 m/min
Tool	ø12 6-flutes endmill
Cutting depth × width	18.0 mm × 2.5 mm
Feedrate	0.60 mm/rev

Drilling	ø13
Cutting speed	120 m/min
Tool	ø13 insert drill
Feedrate	0.34 mm/rev

GENOS L300-M (Material: S45C)

Chip volume	142 cm³/min
Cutting speed	135 m/min
Tool	ø16 6-flutes endmill
Cutting depth × width	20.0 mm × 4.0 mm
Feedrate	0.60 mm/rev

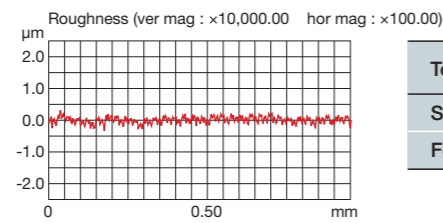
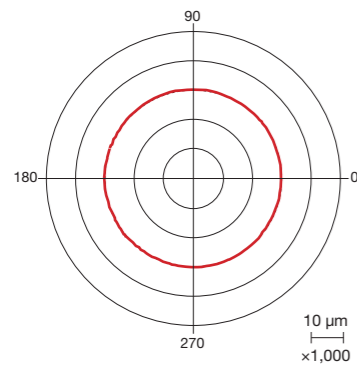
Drilling	ø16
Cutting speed	135 m/min
Tool	ø16 insert drill
Feedrate	0.3 mm/rev

Turning accuracy [actual data]

GENOS L300-MW

Roundness **0.42 μm**

Tool nose uniformity* **Rz : 0.58 μm Ra : 0.08 μm**



* Better surface roughness

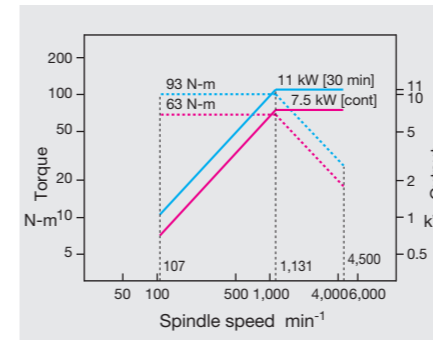
Tool	Compax R0.4 nose
Spindle speed	1,500 min ⁻¹
Feedrate	0.03 mm/rev

The "actual data" referred to above for this brochure represent examples, and may not be obtained due to differences in specifications, tooling, cutting, and other conditions.

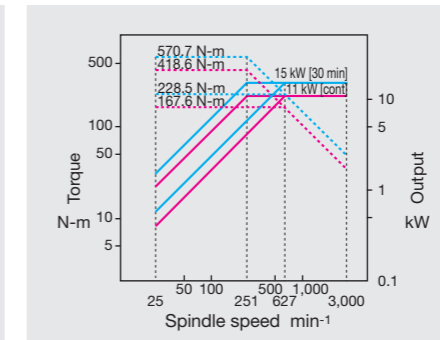
Spindle torque/output diagrams

Main spindle

● ø100 spindle specs (GENOS L250/L200-M)
Spindle speed: 4,500 min⁻¹
Output: VAC 11/7.5 kW (30 min/cont)
Torque: 93 N-m

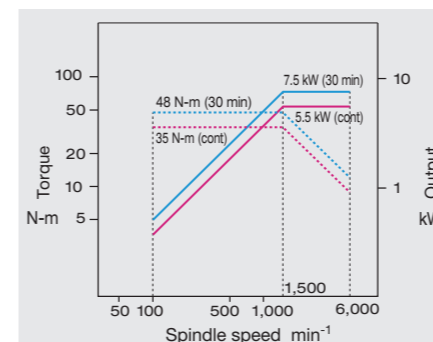


● ø120 spindle specs (GENOS L400/L300-M)
Spindle speed: 3,000 min⁻¹
Output: VAC 15/11 kW (30 min/cont)
Torque: 571 N-m



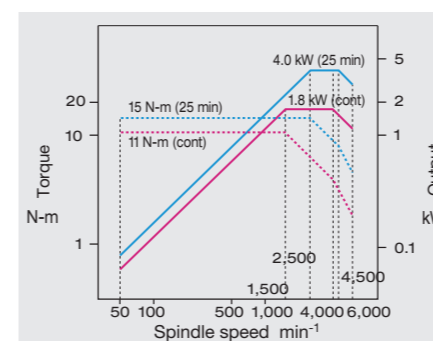
Sub-spindle specs

● ø80 spindle specs (GENOS L300-MW, MYW)
Spindle speed: 6,000 min⁻¹
Output: VAC 7.5/5.5 kW (30 min/cont)
Torque: 48 N-m

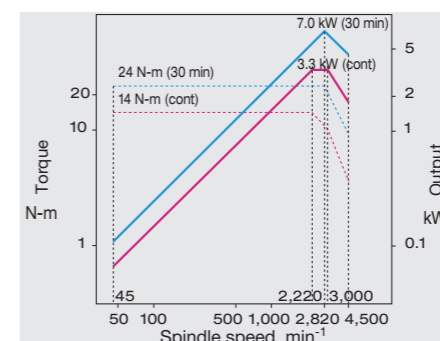


Milling tool spindle

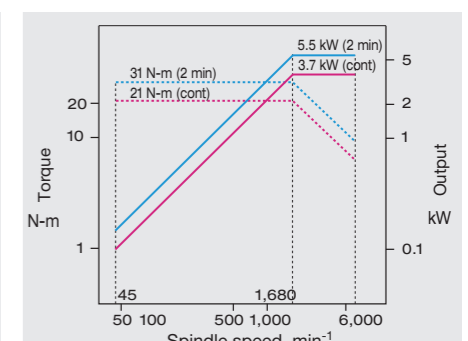
● GENOS L200-M/MY
Spindle speed: 6,000 min⁻¹
Output: PREX 4.0/1.8 kW (25 min/cont)
Torque: 15 N-m



● GENOS L300-M/MY (VDI)
Spindle speed: 4,500 min⁻¹
Output: PREX 7.0/3.3 kW (30 min/cont)
Torque: 24 N-m



● GENOS L300-M/MY/MW/MYW (Radial)
Spindle speed: 6,000 min⁻¹
Output: PREX 5.5/3.7 kW (2 min/cont)
Torque: 31 N-m



Comfortable operation, superior expandability with the customer in mind

Maintenance tasks from the front—effortlessly

- Hydraulic chuck pressure regulator, slideway lubrication tank, and other maintenance items brought to the front of the machine
- A big exit for falling chips and the 1-sheet saddle cover provide for smooth discharge of large volumes of chips

Hydraulic chuck pressure regulator



Slideway lube tank

1-sheet saddle cover

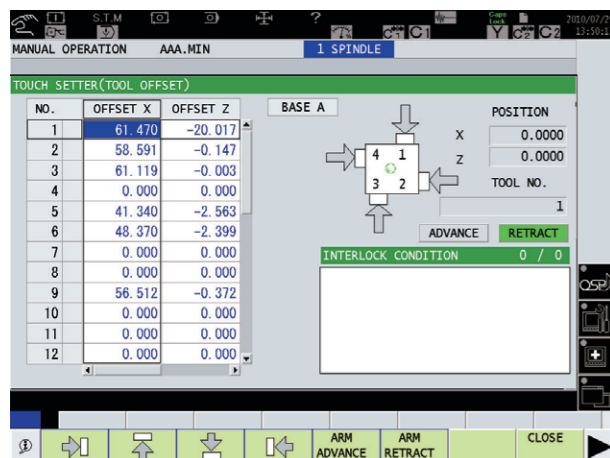


Big exit for falling chips

Machine operation screen (single screen operations)

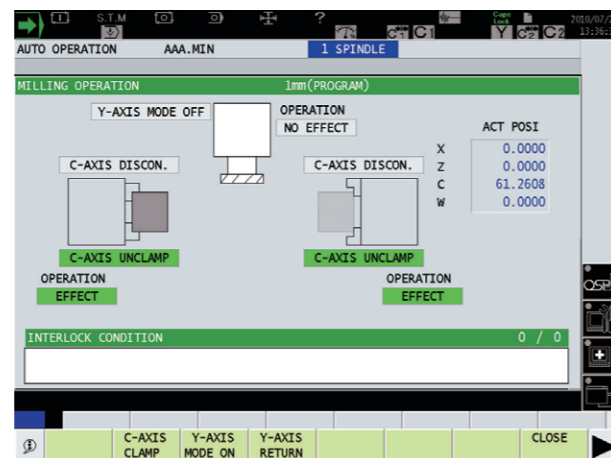
■ Touch Setter gauging

Touch Setter arm advance and retraction, gauging cycle start, and setting and check of tool compensation values can all be done from a single screen. Operation and data settings for Touch Setter gauging can be done without changing screens.



■ Multitasking operations

The series of operations to start multitasking can be done from a single screen while confirming the status of the C and Y axes.



Ready-to-go systems for

1-machine 1-loader applications to full-scale production lines

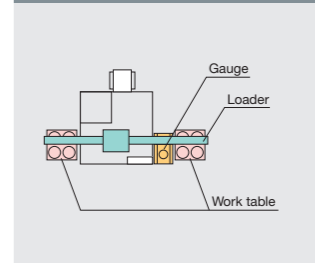
■ Your best layout for automation

- Get outstanding flexibility from 1-machine/1-loader to multi-machine lines, with optimum cycle times, operation mix, work flow, floor space and the like.
- Okuma's selection of work tables, part turnover stands, post-process gauges and other peripherals, can provide an ideal system arrangement to meet your needs.

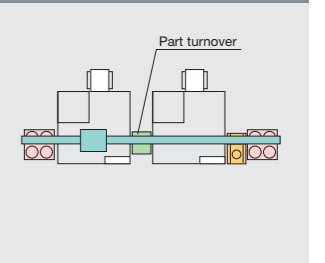


Loader Specs

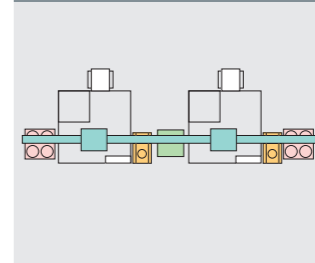
1-machine/1-loader cell



2-machine/1-loader cell



2-machine/2-loader cell



- Blanks and finished parts can be stacked on one work table. (Not possible with 2-machine/2-loader.)
- 2-machine/2-loader cell machines can be laid out in parallel.

One touch editing

G/M programs can be edited with a single touch on the shop floor. Editing can be started immediately by moving the cursor to the program execution block or the block that produced an alarm during machining in automatic operation mode.



With various earth-friendly features

Ecology and economy specs that eliminate waste

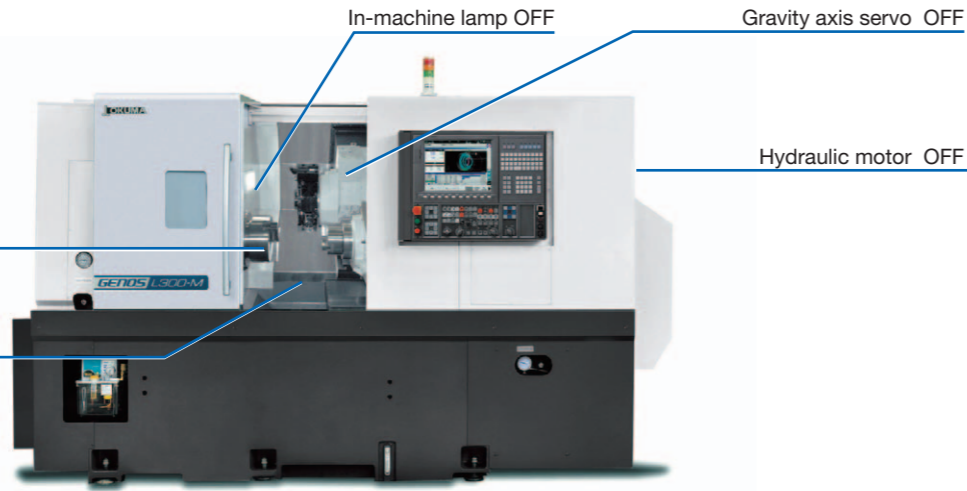
Energy-saving functions

Power-saving

After completion of automatic operation, equipment power shuts off at set time

Spindle cooler motor OFF
Spindle orientation release

Coolant stop
Chip flusher stop



Energy-saving operations

- Chip conveyor intermittent operation
- Lift-up conveyor, mist collector interlocked operation

Energy-saving technologies

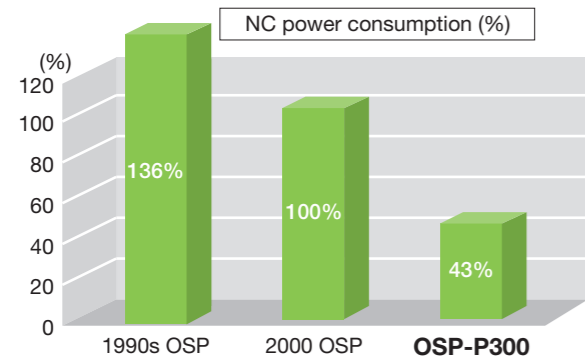
Energy-saving NC unit

- Computer in a flat panel with a high-performance CPU
- Power-saving design
- LCD (Liquid Crystal Display) used

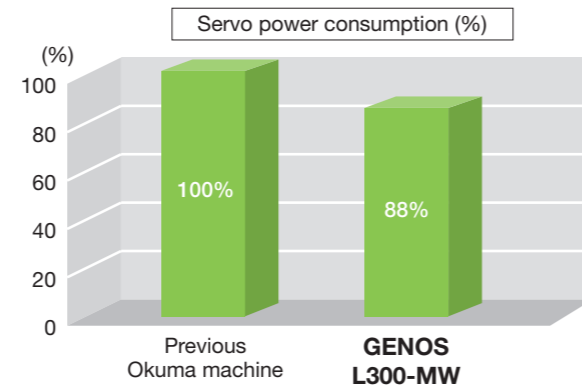
Energy-saving drive units

- Low-loss power transistor used
- Power regeneration system used

Reduced 57% (compared to previous Okuma machine)



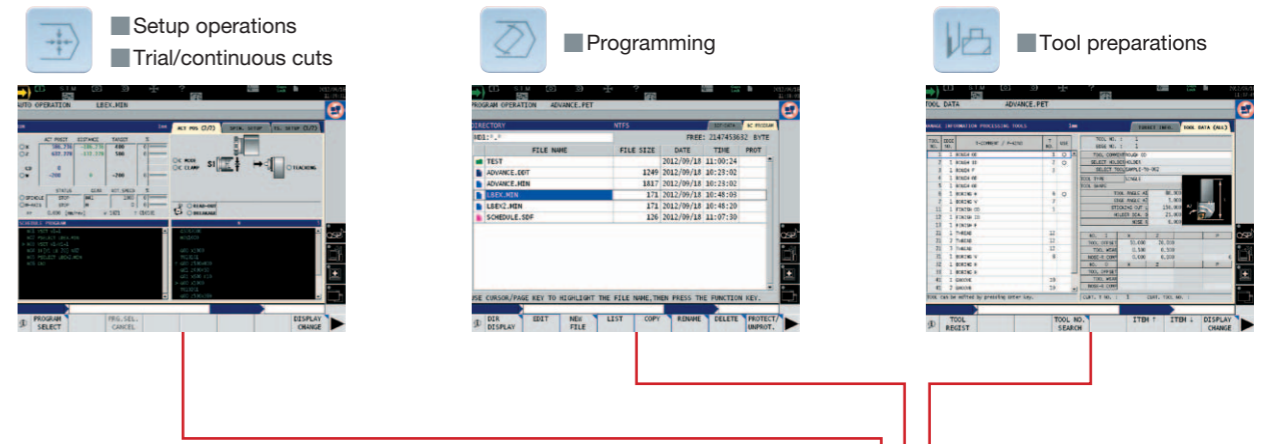
Power consumption Reduced 12% (compared to previous Okuma machine)



Okuma Control **OSP-P300L-R**

Satisfaction from complete control of a machine tool

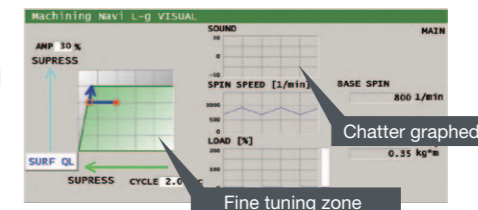
As a "machine & control" builder, Okuma makes further strides in machine tool manufacturing with this superb, control featuring "Easy Operation". Okuma took a close look at the way machinists actually operate machine tools, to help them create smoother and more effective ways of producing parts. Novice operators as well as professional machinists get complete control—and satisfaction. Moreover, what you want to see and do conveniently come together in a "single-mode operation". First, select one of three operation screens. Then simply touch the screen or press a function key to see and do your job.



Cutting condition search for turning **Machining Navi L-g** (Optional)

Chatter-free applications for lathes

Chatter in a lathe can be suppressed by changing spindle speeds to the ideal amplitude and wave cycle—without decreasing spindle speed.

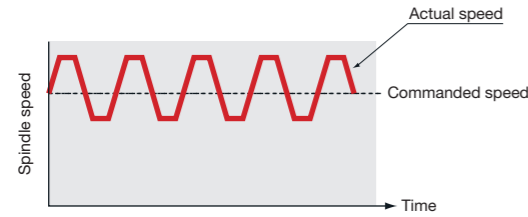


Hi-tech Okuma mechatronics for advanced machining applications

Harmonic spindle speed control (Optional)

Reduce machining chatter

Holds down machining chatter as spindle speed is periodically changed and resonance points change, when cutting large, thin workpieces or small-diameter, long workpieces.



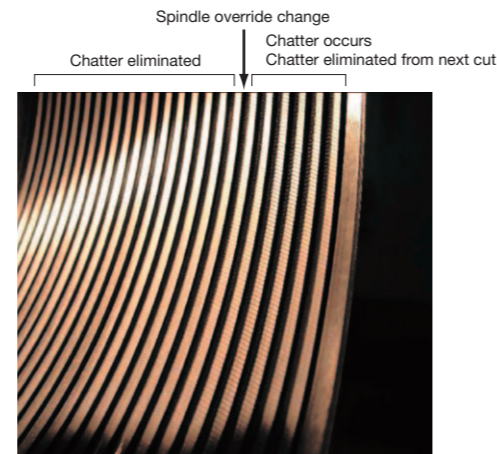
L/D = 18 is machined without steadyrest



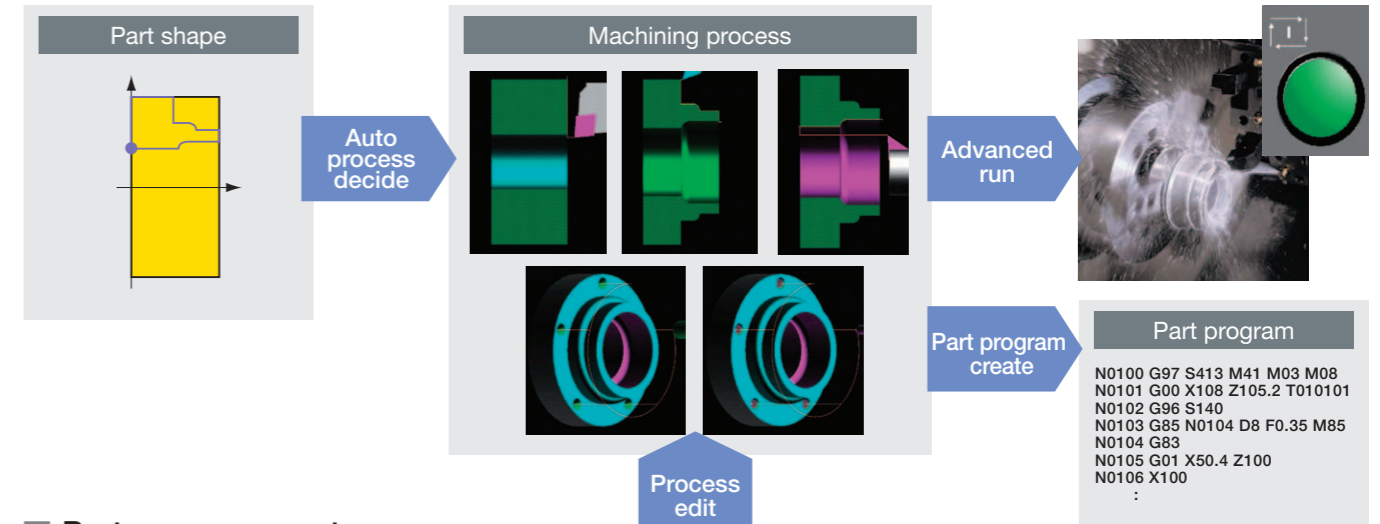
Variable spindle speed threading (Optional)

Good threads from the first piece

Feed axis perfectly synchronized with changing spindle speeds. Thread pitch accuracy is maintained even if the spindle speed changes during threading. Cutting conditions without chatter can be found by using spindle override during threading. As a result, you get good quality screws from the first piece.



Interactive operations Advanced One-Touch IGF-L (Optional)



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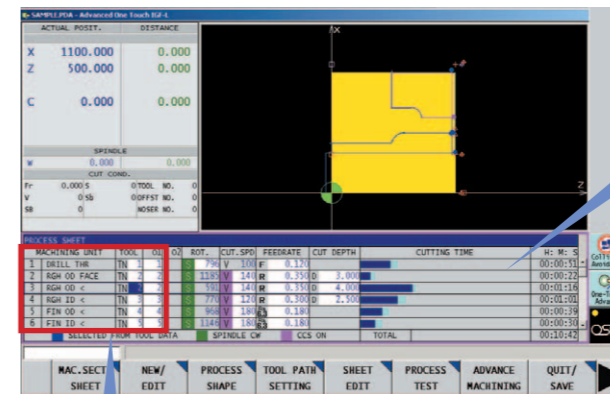
Part program
N0100 G97 S413 M41 M03 M08
N0101 G00 X108 Z105.2 T010101
N0102 G96 S140
N0103 G85 N0104 D8 F0.35 M85
N0104 G83
N0105 G01 X50.4 Z100
N0106 X100
:
  
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Part program create

After simple cutting data inputs (interactively), the required machining processes are determined and a part program is created (automatically).

Advanced run

To run the machine directly from the interactive part program screen. When a problem is detected it can be quickly corrected and checked, speeding up first part machining.



Directly change cutting conditions for each process with this process sheet

Tables make it easy to make mid-cycle or individual process starts

MACHINING UNIT	TOOL
1 DRILL THR	TN 1
2 RGH OD FACE	TN 2
3 RGH OD <	TN 2
4 RGH ID <	TN 3
5 FIN OD <	TN 4
6 FIN ID <	TN 5

Continuous run

MACHINING UNIT	TOOL
1 DRILL THR	TN 1
2 RGH OD FACE	TN 2
3 RGH OD <	TN 2
4 RGH ID <	TN 3
5 FIN OD <	TN 4
6 FIN ID <	TN 5

Mid-cycle start (finishing repeated)

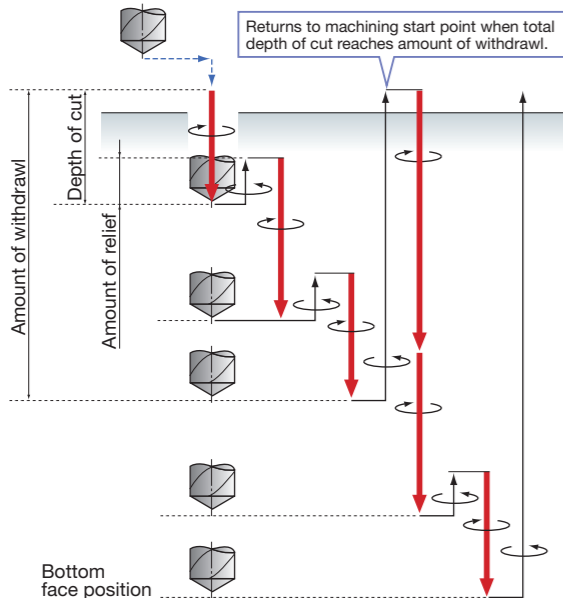
MACHINING UNIT	TOOL
1 DRILL THR	TN 1
2 RGH OD FACE	TN 2
3 RGH OD <	TN 2
4 RGH ID <	TN 3
5 FIN OD <	TN 4
6 FIN ID <	TN 5

Individual run (machining repeated with this tool only)

Deep hole synchro tapping

Easy programming of machining know-how

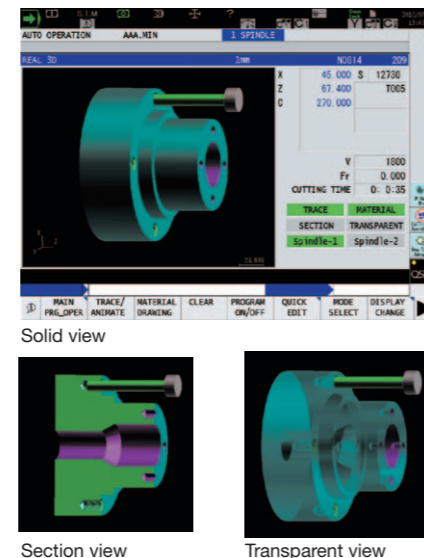
Cutting is divided into multiple cuts by simply designating depth of cut, amount of relief, and amount of withdrawal, and tool damage from chip clogging is prevented. In addition, if overload is detected during synchronized tapping, machine returns to machining start point with synchronized feed and stops with alarm.



Real 3-D simulation (Optional)

Live-performance machining

In all operating modes (auto, MDI, manual, etc), the cutting conditions are displayed in real time. Switching between solids, section views, transparent models, and performing machining simulation (dry runs with the machine locked) lets you check part program accuracy.



Machine Specifications

Item	Chuck size		8-inch				10-inch								
	Model name		GENOS L250		GENOS L200-M		GENOS L400		GENOS L300-M						
	Spec extension		L250	L250E	L200-M	L200E-M	L200E-MY	L400	L400E	L300-M	L300E-M	L300-MY	L300E-MY	L300-MW	L300-MYW
Capacity	Swing over bed	mm	ø450				ø520								
	Max turning dia	mm	ø220		ø200		ø310	ø330	ø300		ø340		ø300		
	Max work length	mm	290	500	225	380	380	500	1,100	450	1,060	420	1,020	150	
Travels	X axis	mm	160 (+110 to -50)		165 (+100 to -65)		220 (+155 to -65)	230 (+165 to -65)	235 (+150 to -85)		235 (+170 to -65)		237 (+180 to -57)	235 (+195 to -40)	
	Z axis	mm	330	470	245	400	400	520	1,144	520	1,144	450	1,074	460	
	Y axis	mm	-		-		80 (+30 to -50)	-		-		100 (+50 to -50)		-	100 (+50 to -50)
	W axis	mm	-		-		-		-		-		520		
	C axis	deg	-		360 (0.001 increments)		-		-		360 (0.001 increments)		-		
Spindle	Spindle speed	min ⁻¹	107 to 4,500				25 to 3,000								
	Speed ranges		Infinitely variable				Infinitely variable x 2 auto ranges (coil switching)								
	Spindle nose		JIS A2-6				JIS A2-8								
	Spindle bore dia	mm	ø66				ø80								
	Front bearing dia	mm	ø100				ø120								
Sub-spindle	Spindle speed	min ⁻¹	-				-								
	Speed ranges		-				-								
	Spindle nose		-				-								
	Spindle bore dia	mm	-				ø53								
	Front bearing dia	mm	-				ø80								
Turret	Type		V12 turret		M-V12 turret (VDI)		V12 turret		M-V12 turret (VDI) / M-V12 turret (Radial)				M-V12 turret (Radial)		
	No. of tools		12				12								
	OD tool shank	mm	25 x 25		20 x 20		25 x 25								
	ID tool shank dia	mm	ø32				ø40								
	Turret indexing time	sec	0.3		0.1		0.3		0.1						
Milling tool	Spindle speed	min ⁻¹	-		50 to 6,000 (standard radial mill/drill holder: 5,000)		-		45 to 4,500				45 to 6,000		
	Speed range		-		Infinitely variable		Infinitely variable								
Feedrates	Rapid traverse (X, Z)	m/min	X: 20, Z: 25				X: 20, Z: 25	X/Z: 20	X: 20, Z: 25	X/Z: 20	X: 20, Z: 25	X/Z: 20	X: 20, Z: 25		
	Rapid traverse (Y)	m/min	-		Y: 10		-		Y: 10				-	Y: 10	
	Rapid traverse (W)	m/min	-		-		-		-				W: 25		
	Rapid traverse (C)	min ⁻¹	-		C: 200		-		C: 200				-		
	Feedrate (X, Z, Y)	mm/rev	0.001~1,000.000				0.001~1,000.000								
Tailstock	Tailstock quill diameter	mm	ø55	ø90	-	ø90	ø55	ø90						-	
	Tapered bore type		MT 4 (dead center)	MT 5 (dead center)	-	MT 5 (dead center)	MT 4 (dead center)	MT 5 (dead center)	MT 4 (built-in center)	MT 5 (dead center)	MT 4 (built-in center)	MT 5 (dead center)	MT 4 (built-in center)	-	
	Quill travel	mm	80	100	-	100	80	100						-	
Motors	Main spindle	kW	VAC 11/7.5 (30 min/cont)				VAC 15/11 (30 min/cont)								
	Sub-spindle	kW	-				-								
	Milling tool spindle	kW	-		PREX 4.0/1.8 (25 min/cont)		-		VDI:PREX 7.0/3.3 (30 min/cont)		Radial:PREX 5.5/3.7 (2 min/cont)		PREX 5.5/3.7 (2 min/cont)		
	Axis drive (X)	kW	2.2		3.0		3.0		2.8						
	Axis drive (Z)	kW	3.0				3.5								
	Axis drive (Ys)	kW	-		3.0		-		2.8				-	2.8	
	Axis drive (W)	kW	-				-								
Coolant pump motors	kW	0.8				0.8									
Machine size	Height	mm	1,624	1,569	1,624	1,569	2,037	1,741	1,934	1,741	1,934	2,212	2,487	1,852	2,210
	Floor space	mm	1,627 x 1,642	2,081 x 1,550	1,752 x 1,642	2,081 x 1,550	2,118 x 1,748	2,550 x 1,791	3,537 x 2,333	2,550 x 1,791	3,537 x 2,333	2,550 x 2,154	3,537 x 2,536	3,300 x 1,856	3,300 x 2,238
	Weight (w/ CNC)	kg	2,800	3,800	2,800	3,800	4,600	3,900	6,500	3,900	6,500	4,900	7,500	5,300	6,200
CNC		OSP-P300L-R						OSP-P300L-R							

[]: Optional

GENOS L250/L200-M

Machine Specifications						
Model	L250	L250E	L200-M	L200E-M	L200E-MY	
Specifications	T	C	T	C	T	C
Spindle	A2-6 107 to 4500 min ⁻¹ VAC11/7.5 kW (30 min/cont)					
Turret	V12		M-V12			
Milling tool	50 to 6000 min ⁻¹ PREX 4/1.8 kW (25 min/cont)					
Tailstock (Hydraulic)	-	●	-	●	-	●
• Dead quill	-	MT 5	-	MT 5	-	MT 4
Standard accessories	Coolant system, work lamp, full enclosure shielding, jack screws, washers, hand tools					
Standard Specifications	Door interlock, Lube monitor, Touch setter M (manual), Tailstock quill auto advance/retract with confirmation, coolant pump 0.8 kW					
CNC	OSP-P300L-R					

T: chuck work (without tailstock), C: shaft work (with tailstock), ●: include

Chucking / Tooling Kit Specifications

Machine type		L250	L250E	L200-M*	L200E-M*	L200E-MY*
Hydraulic hollow chuck	size	8"				
Standard soft jaw A	3 pcs/set	1				
Standard soft jaw B	3 pcs/set	1				
Revolving center (MT 5)	set	-	1	-	1	-
Dead center (MT 4)	set	-	-	-	-	1
OD toolholder I	set	2	-	-	-	-
OD toolholder II	set	2	-	-	-	-
OD toolholder A (VDI)	set	-	-	2		
OD toolholder B (VDI)	set	-	-	2		
OD toolholder C (VDI)	set	-	-	1		
ID toolholder base H32	set	4	-	-	-	
ID toolholder base H32 (VDI)	set	-	-	3		
Boring bar sleeve 12-H32	pc	-	-	2		
Boring bar sleeve 16-H32	pc	-	-	2		
Boring bar sleeve 20-H32	pc	2	-	2		
Boring bar sleeve 25-H32	pc	2	-	2		
Drill sleeve MT2-H32	pc	1	-	1		
Drill sleeve MT3-H32	pc	-	-	-	-	
Radial drill / mill unit	set	-	-	-		
Axial drill / mill unit	set	-	-	-		
Dummy holder	set	-	-	3		

* VDI tooling

GENOS L400/L300-M

Machine Specifications										
Model	L400		L400E	L300-M		L300E-M	L300-MY		L300E-MY	L300-MW, MYW
Specifications	T	C	C	T	C	C	T	C	T	C
Spindle	A2-8 25 to 3000 min ⁻¹ VAC 15/11 (30 min/cont)									
Sub Spindle (30 min/cont)	-									
Turret	V12			M-V12 (VDI) / M-V12 (Radial)						
Milling tool	-		VDI: 45 to 4,500 min ⁻¹ PREX 7/3.3 kW (30 min/cont) Radial: 45 to 6,000 min ⁻¹ PREX 5.5/3.7 kW (2 min/cont)							
Tailstock (Hydraulic)	-	●	-	●	-	●	-	●	-	●
• quill	-	Dead MT 5	Built-in MT 4	-	Dead MT 5	Built-in MT 4	-	Dead MT 5	-	Built-in MT 4
Movable tailstock	-	Manual	Manual tow-along	-	Manual	Manual tow-along	-	Manual	-	Manual tow-along
Standard accessories	Coolant system, work lamp, full enclosure shielding, jack screws, washers, hand tools									
Standard specifications	Door interlock, Lube monitor, Touch setter M (manual), Tailstock quill auto advance/retract with confirmation, coolant pump 0.8 kW									
CNC	OSP-P300L-R									

T: chuck work (without tailstock), C: shaft work (with tailstock), ●: include

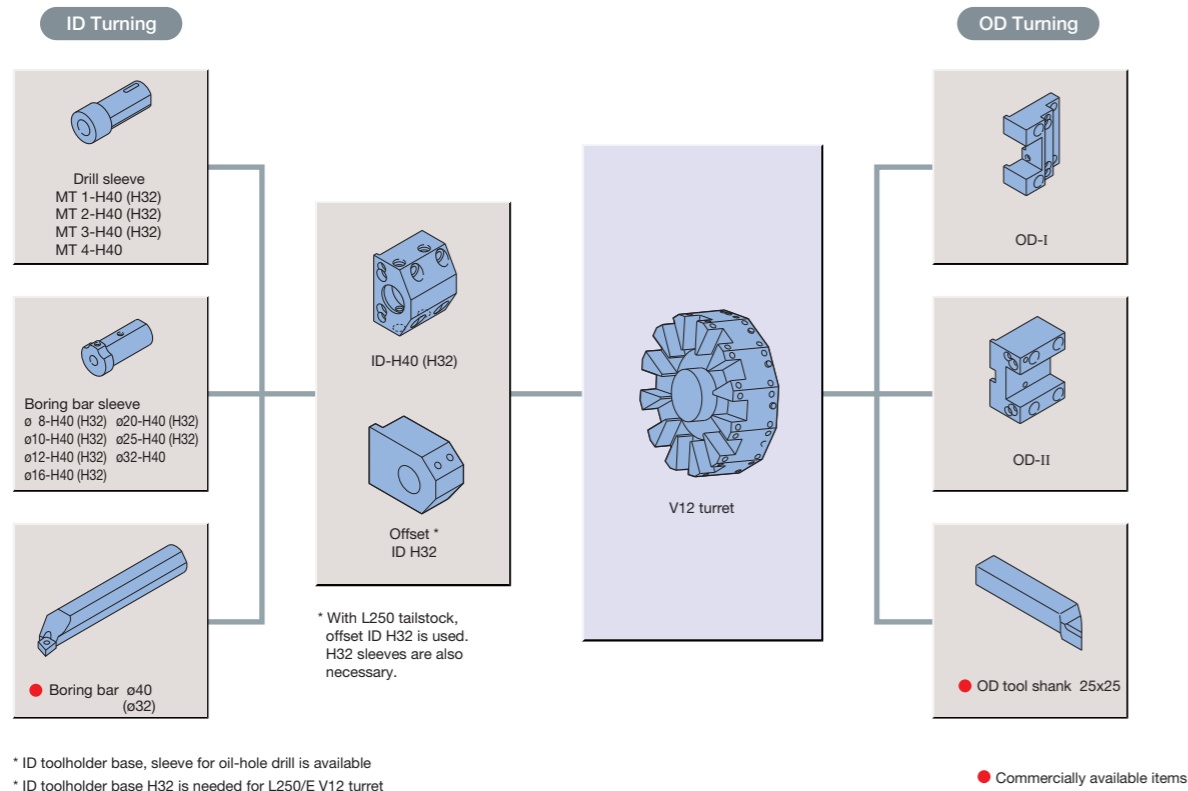
Chucking / Tooling Kit Specifications

Machine type		L400	L400E	L300-M* ¹	L300E-M* ¹	L300-MY* ¹	L300E-MY* ¹	L300-MW, MYW* ²		
Hydraulic hollow chuck	size	10"							main 10"	sub 6"
Standard soft jaw A	3 pcs/set	1								
Standard soft jaw B	3 pcs/set	1								
Revolving center (MT 5)	set	1	-	1	-	1	-	-		
Dead center (MT 4)	set	-	1	-	1	-	1	-		
OD toolholder I	set	2	-	-	-	-	-	-		
OD toolholder II	set	2	-	-	-	-	-	-		
OD toolholder I-S (radial)	set	-	-	-	-	-	-	2		
OD toolholder II-S (radial)	set	-	-	-	-	-	-	2		
OD toolholder A (VDI)	set	-	-	2						
OD toolholder B (VDI)	set	-	-	2						
OD toolholder C (VDI)	set	-	-	1						
ID toolholder base H40	set	4	-	-						
ID toolholder base H40 (VDI)	set	-	-	3						
ID toolholder base H40 (Radial for main)	set	-	-	-				4		
ID toolholder base H40 (Radial for sub)	set	-	-	-				1		
Boring bar sleeve 12-H40	pc	-								
Boring bar sleeve 16-H40	pc	-	-	2						
Boring bar sleeve 20-H40	pc	2								
Boring bar sleeve 25-H40	pc	2								
Boring bar sleeve 32-H40	pc	-	-	2				2		
Drill sleeve MT2-H40	pc	-	-	1				3		
Drill sleeve MT3-H40	pc	1	-	-	-	-	-	-		
Radial drill / mill unit	set	-	-	-						
Axial drill / mill unit	set	-	-	-						
Dummy holder	set	-	-	3						

*1. VDI tooling
*2. Radial tooling

Tooling System

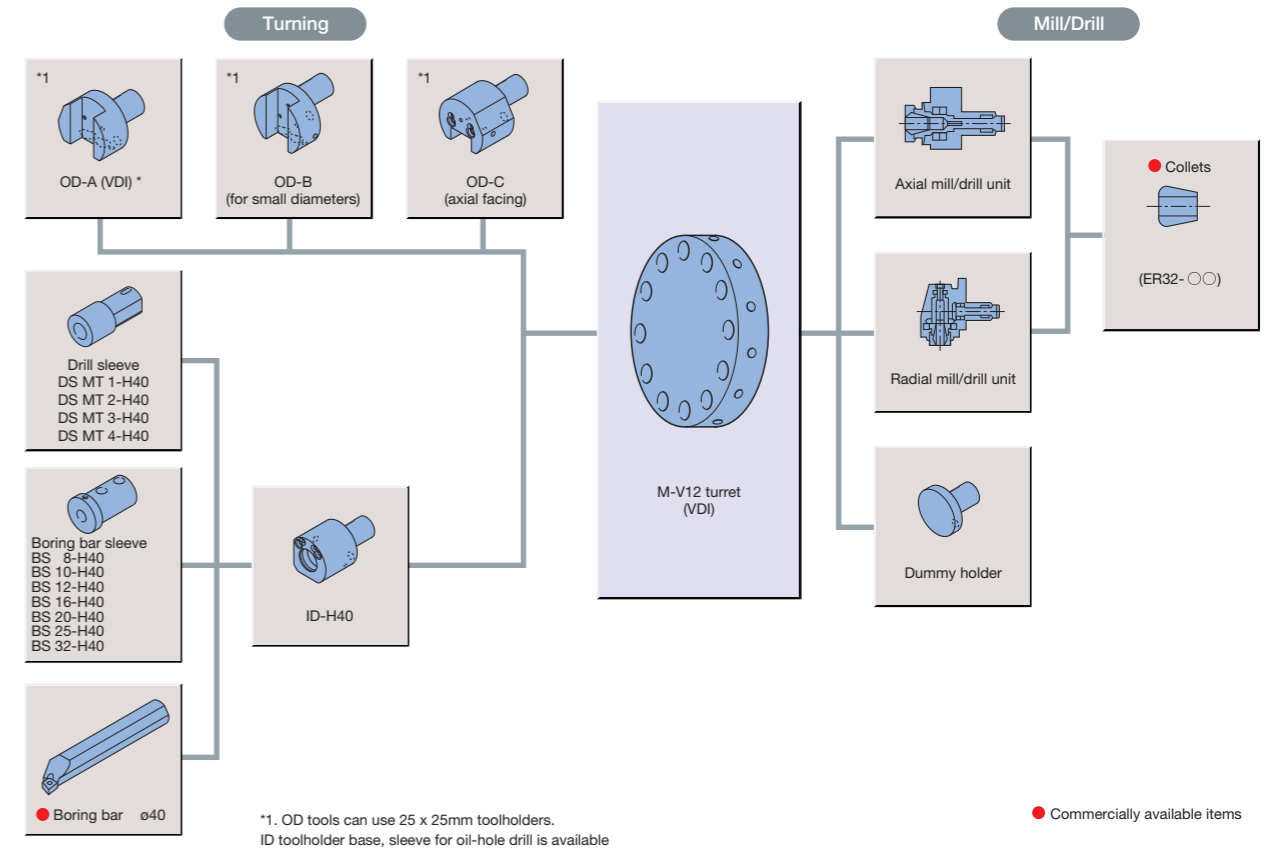
GENOS L250/E, L400/E V12 turret tooling



* ID toolholder base, sleeve for oil-hole drill is available
 * ID toolholder base H32 is needed for L250/E V12 turret
 * ID toolholder base H40 is needed for L400/E V12 turret

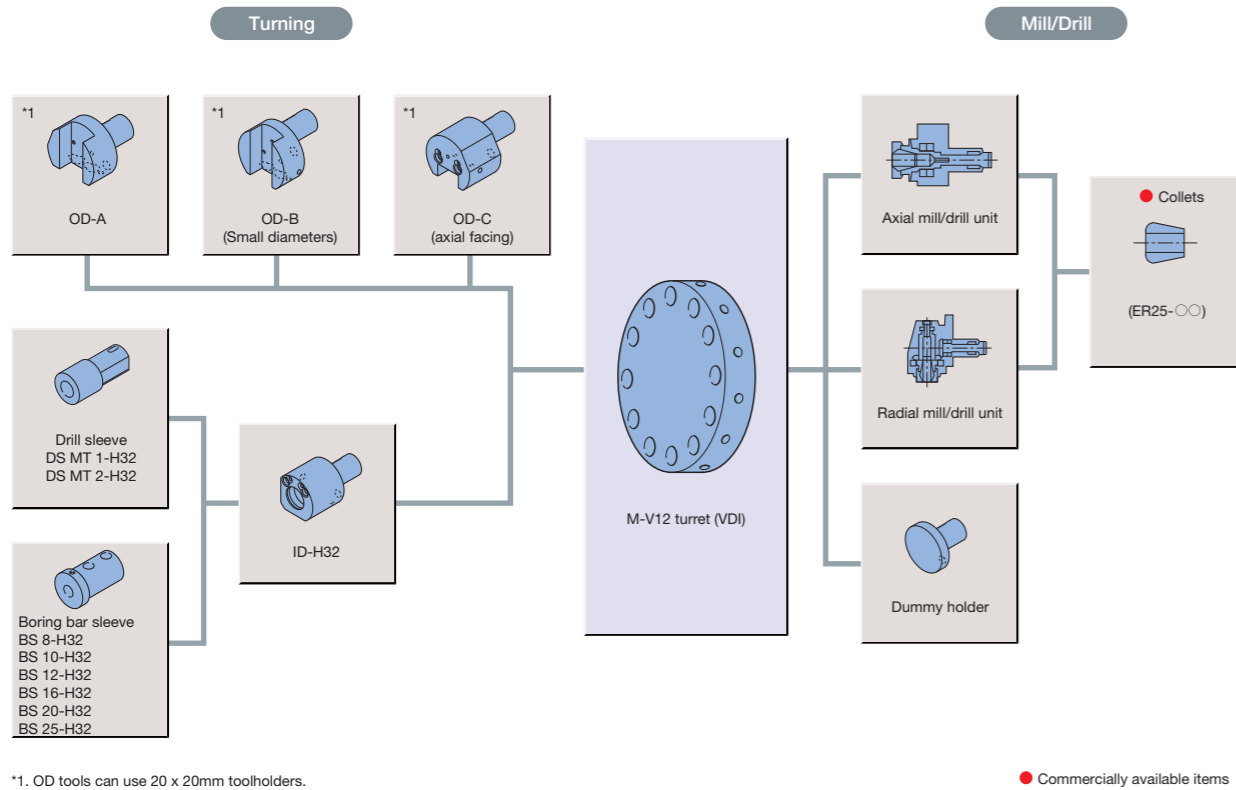
Tooling System

GENOS L300/E-M, MY M-V12 turret (VDI) tooling



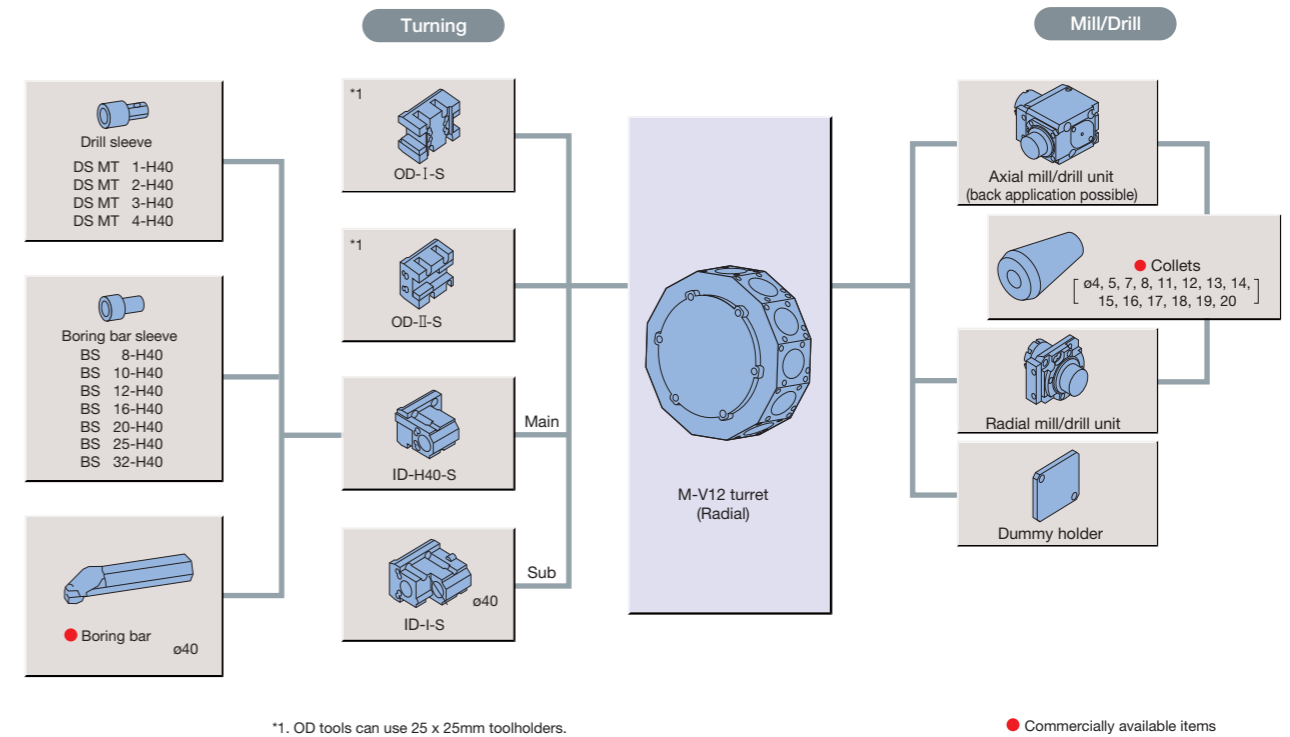
*1. OD tools can use 25 x 25mm toolholders. ID toolholder base, sleeve for oil-hole drill is available

GENOS L200/E-M, MY M-V12 turret (VDI) tooling



*1. OD tools can use 20 x 20mm toolholders. ID toolholder base, sleeve for oil-hole drill is available

GENOS L300/E-M, MY, MW, MYW M-V12 turret (Radial) tooling

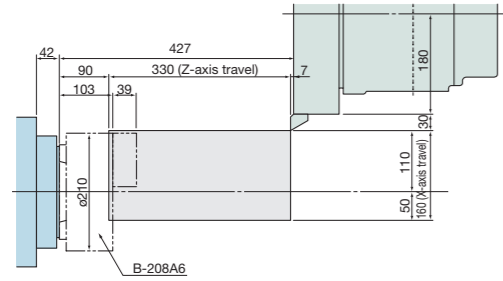


*1. OD tools can use 25 x 25mm toolholders. ID toolholder base, sleeve for oil-hole drill is available

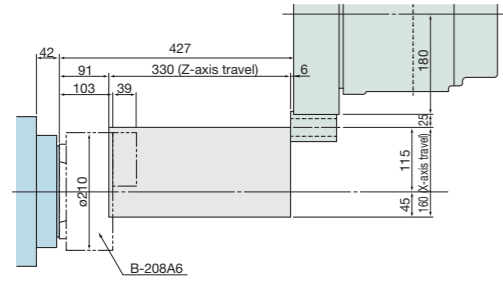
Working Ranges

GENOS L250 V12 turret

Direct tool shank

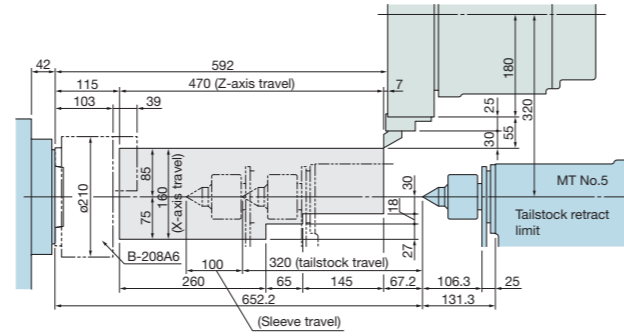


ID

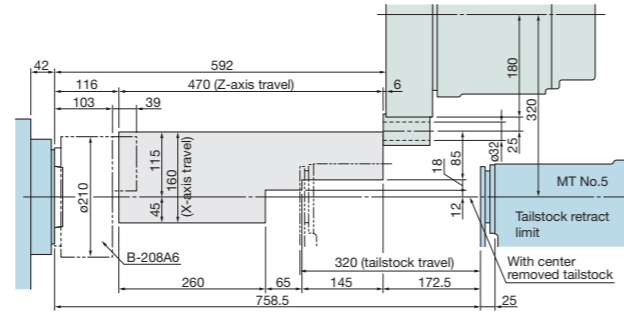


GENOS L250E V12 turret

OD-I



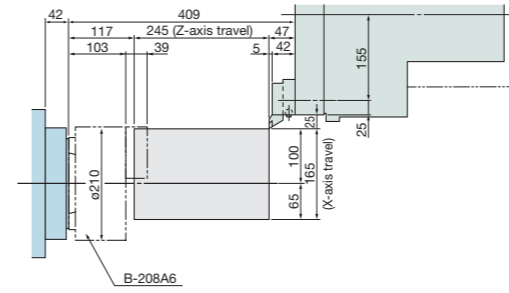
ID



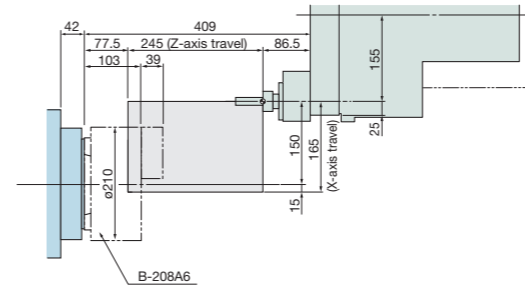
Working Ranges

GENOS L200-M M-V12 turret (VDI)

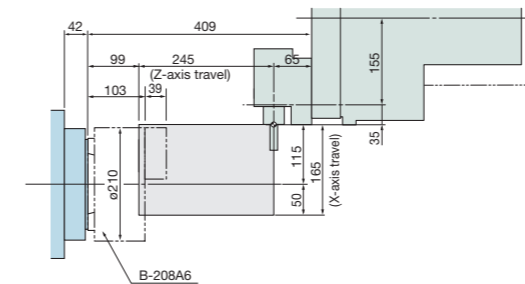
OD-A



Axial mill/drill unit

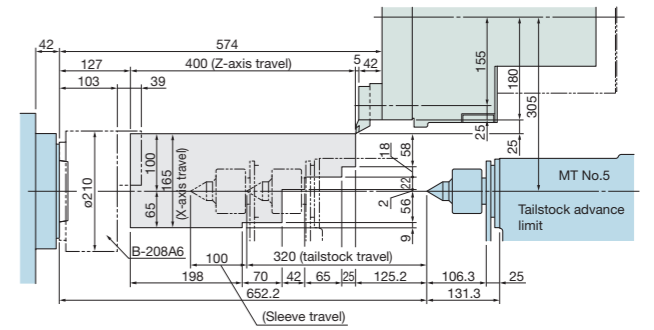


Radial mill/drill unit

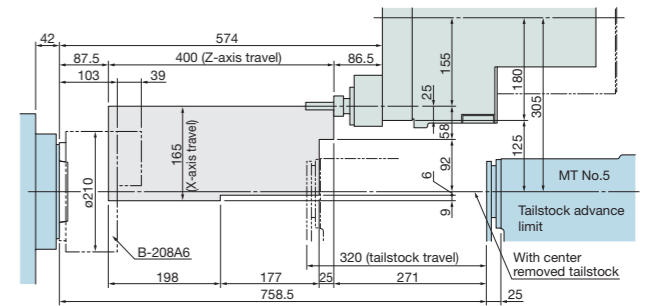


GENOS L200E-M M-V12 turret (VDI)

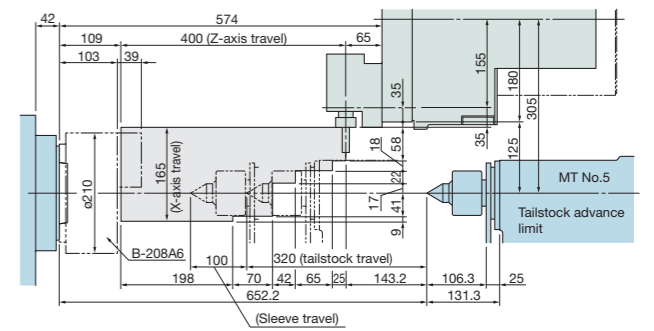
OD-A



Axial mill/drill unit



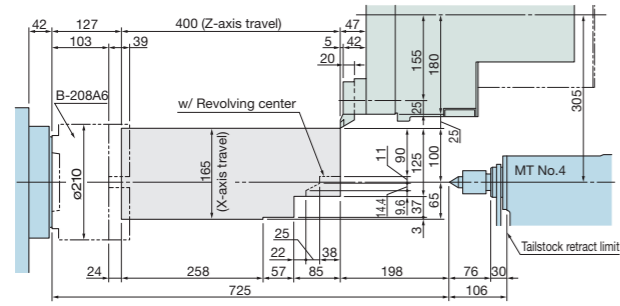
Radial mill/drill unit



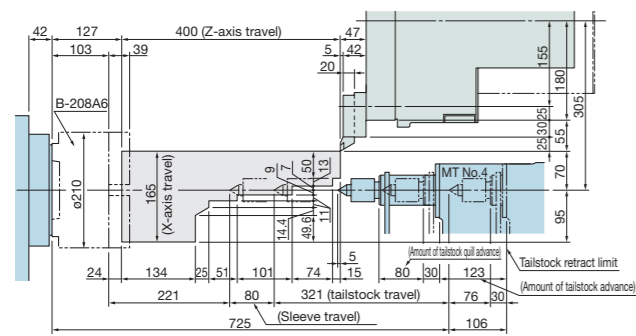
Working Ranges

GENOS L200E-MY M-V12 turret (VDI)

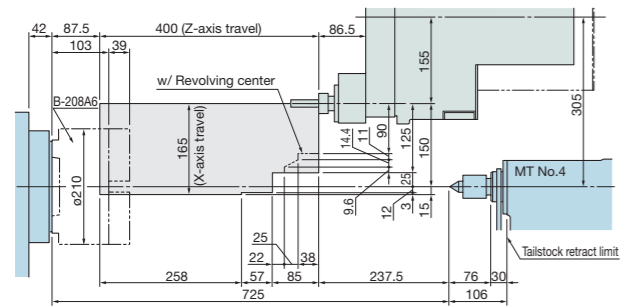
OD-A



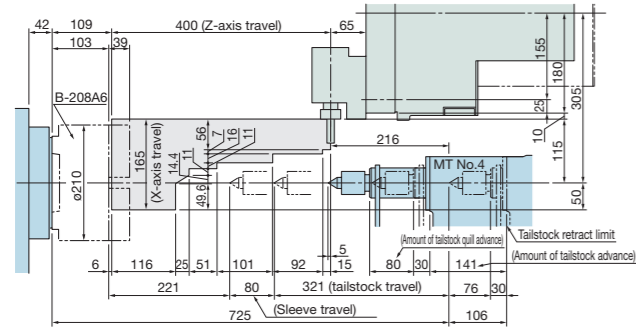
OD-B



Axial mill/drill unit
Y=0

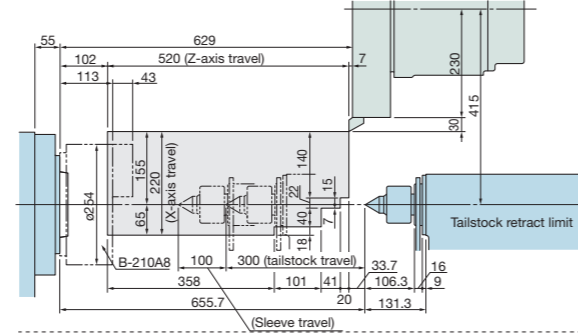


Radial mill/drill unit
Y=0

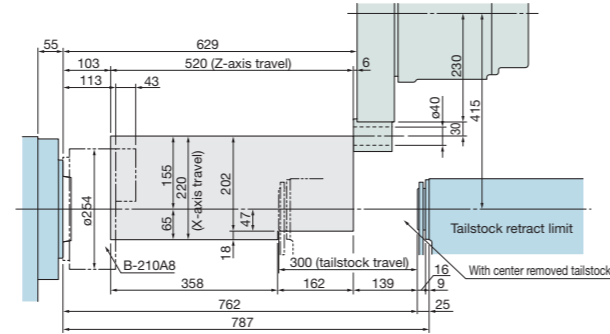


GENOS L400 V12 turret

Direct tool shank

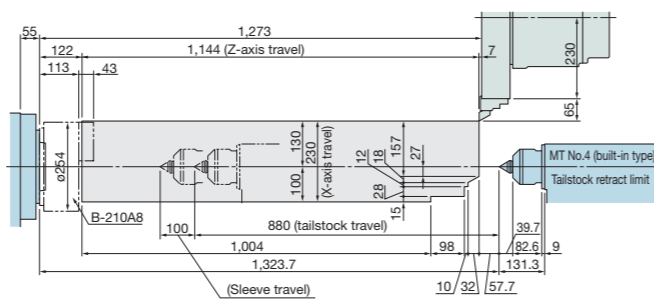


ID

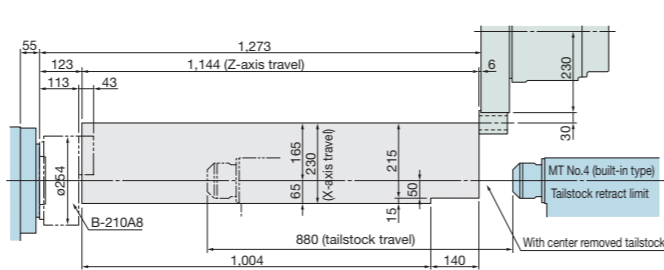


GENOS L400E V12 turret

OD-I



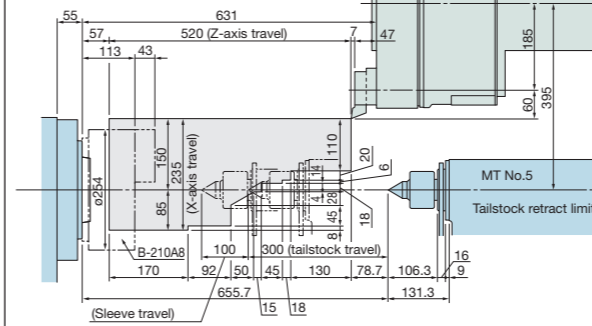
ID



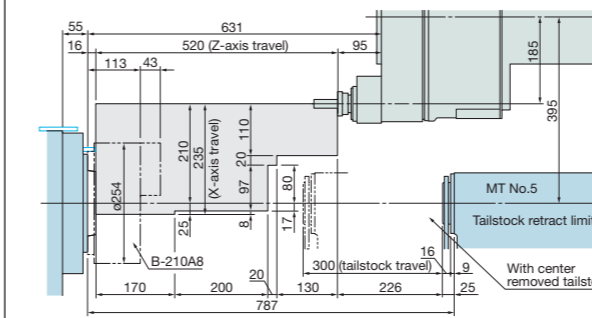
Working Ranges

GENOS L300-M M-V12 turret (VDI)

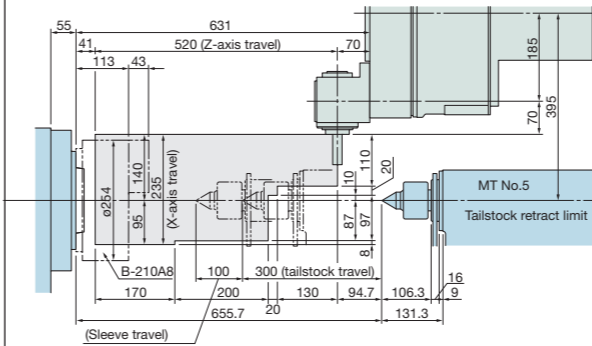
OD-A



Axial mill/drill unit

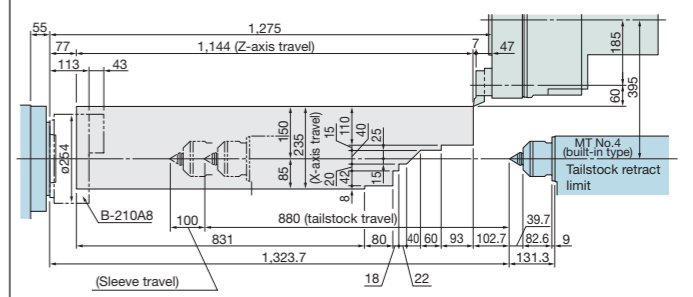


Radial mill/drill unit

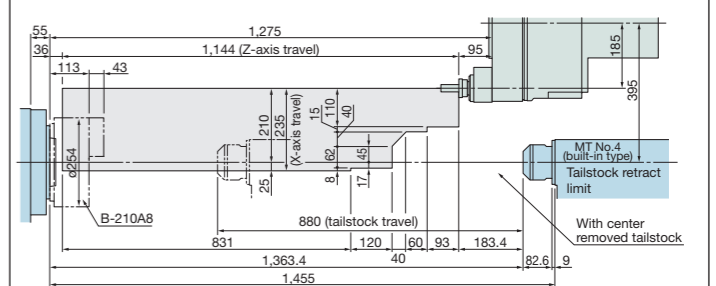


GENOS L300E-M M-V12 turret (VDI)

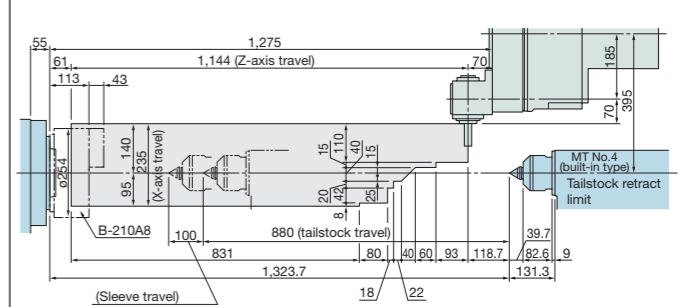
OD-A



Axial mill/drill unit



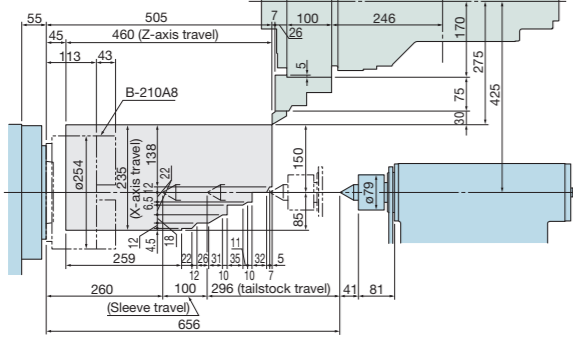
Radial mill/drill unit



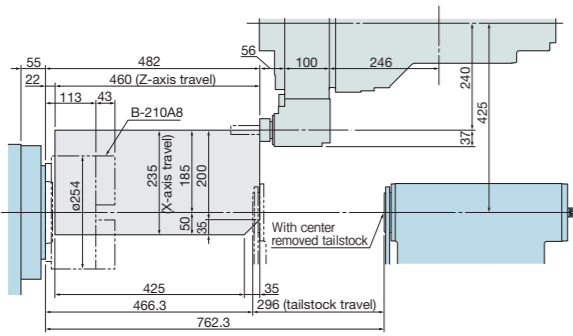
Working Ranges

GENOS L300-M M-V12 turret (Radial)

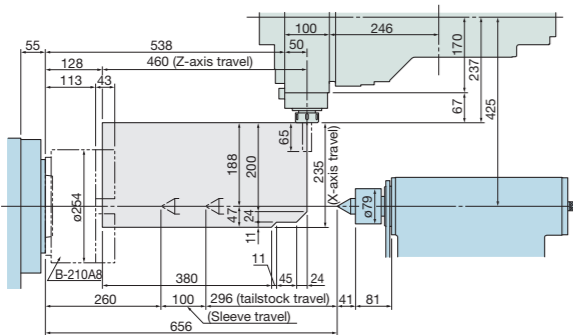
OD-I



Axial mill/drill unit

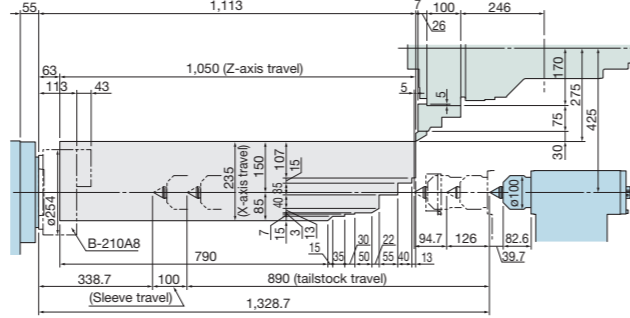


Radial mill/drill unit

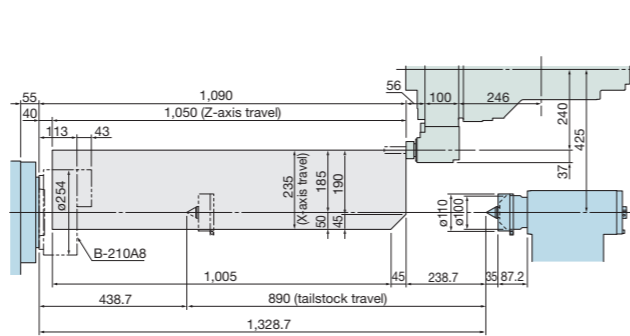


GENOS L300E-M M-V12 turret (Radial)

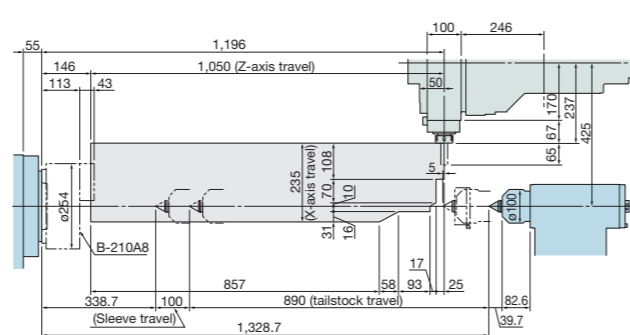
OD-I



Axial mill/drill unit



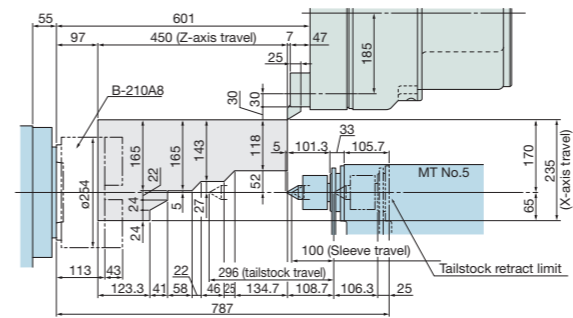
Radial mill/drill unit



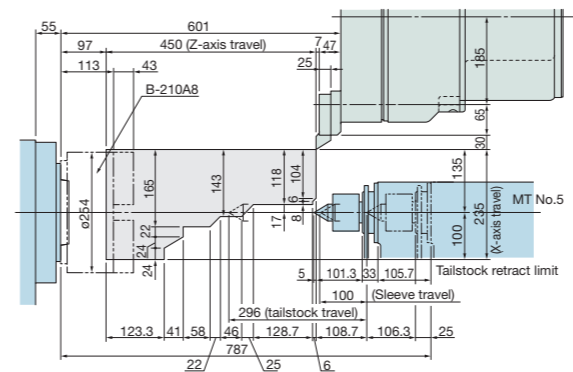
Working Ranges

GENOS L300-MY M-V12 turret (VDI)

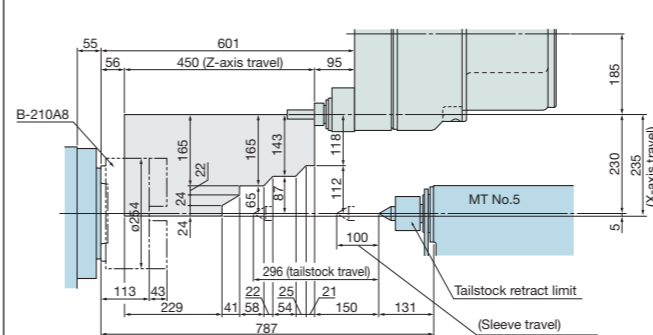
OD-A



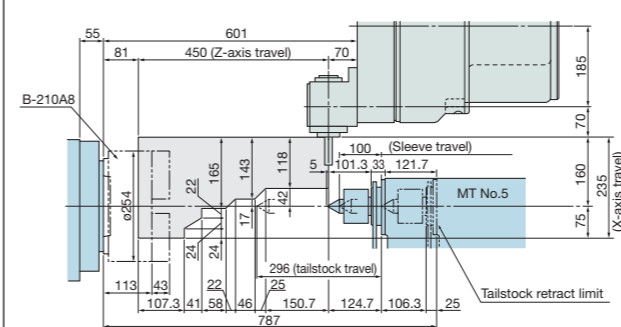
OD-B



Axial mill/drill unit

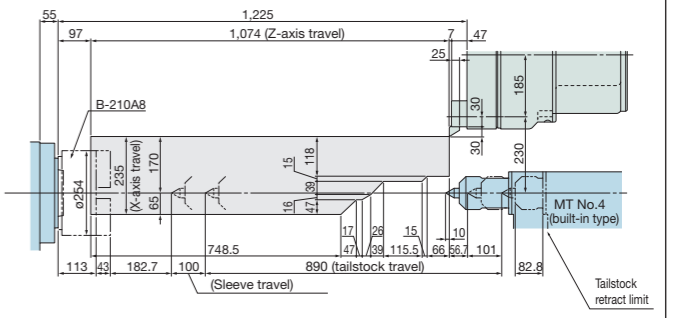


Radial mill/drill unit

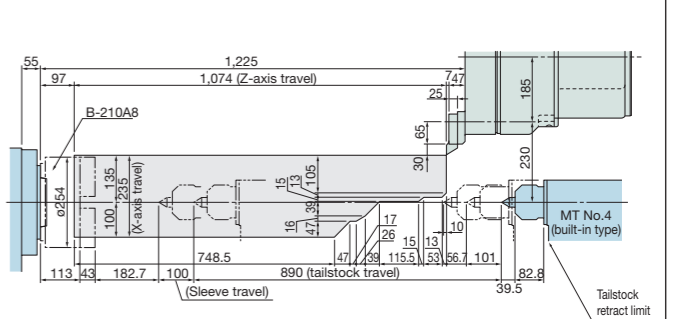


GENOS L300E-MY M-V12 turret (VDI)

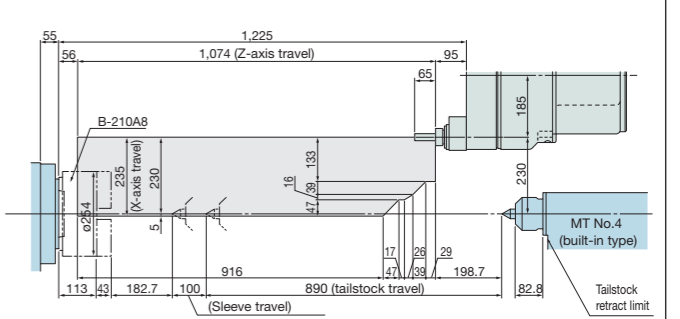
OD-A



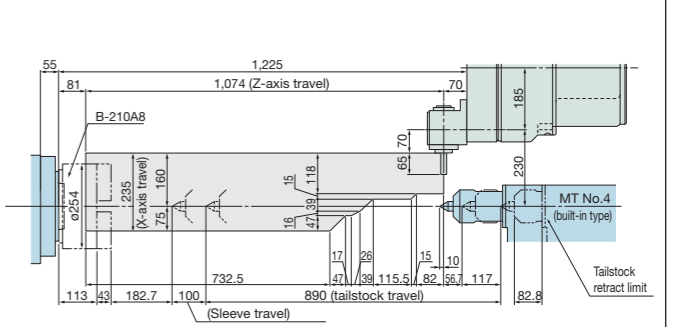
OD-B



Axial mill/drill unit

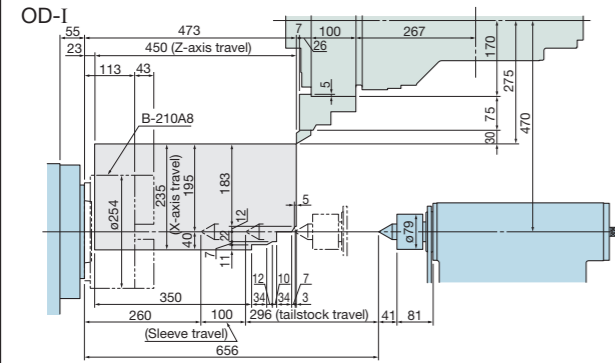


Radial mill/drill unit

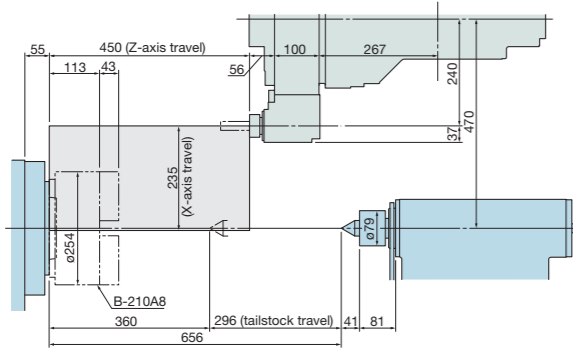


Working Ranges

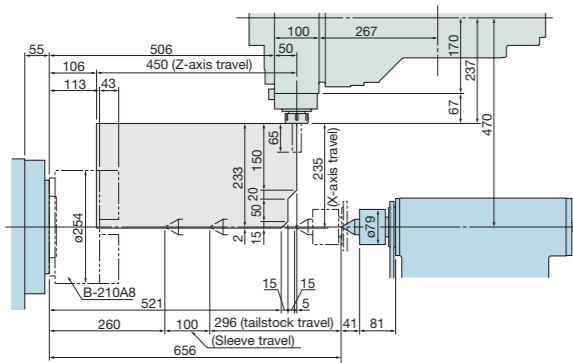
GENOS L300-MY M-V12 turret (Radial)



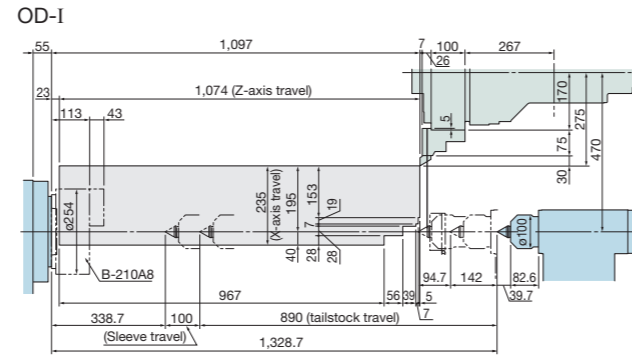
Axial mill/drill unit



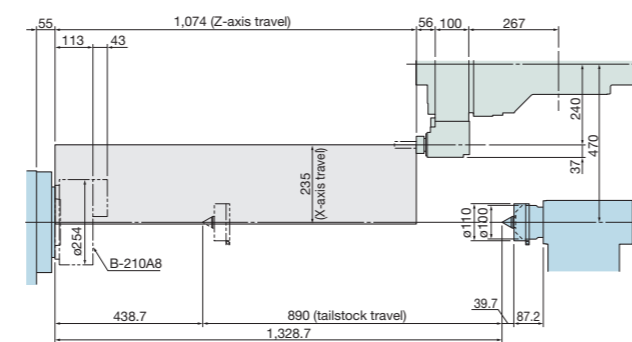
Radial mill/drill unit



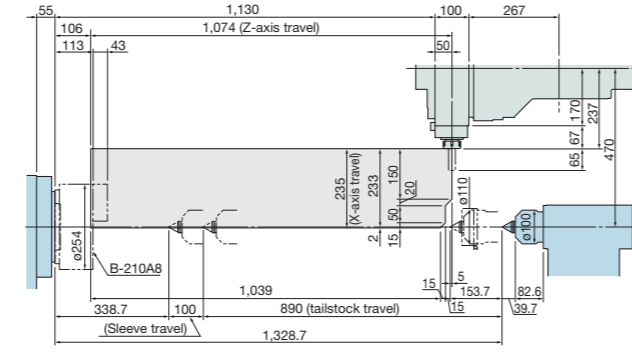
GENOS L300E-MY M-V12 turret (Radial)



Axial mill/drill unit

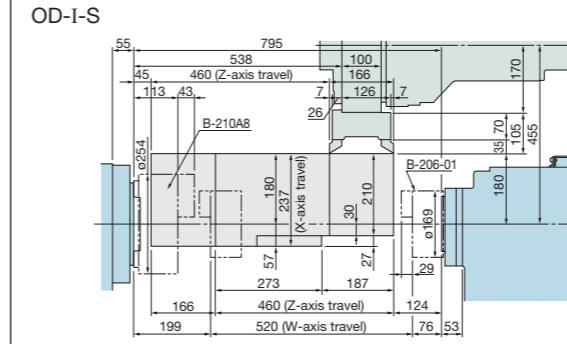


Radial mill/drill unit

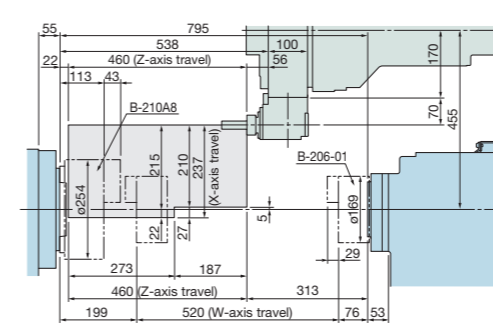


Working Ranges

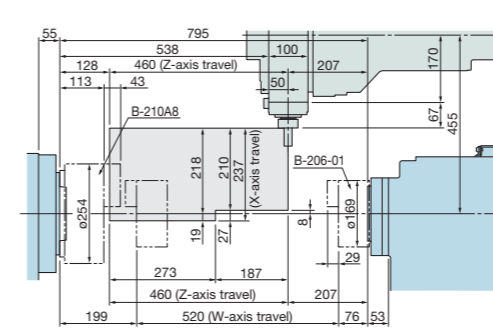
GENOS L300-MW M-V12 turret (Radial)



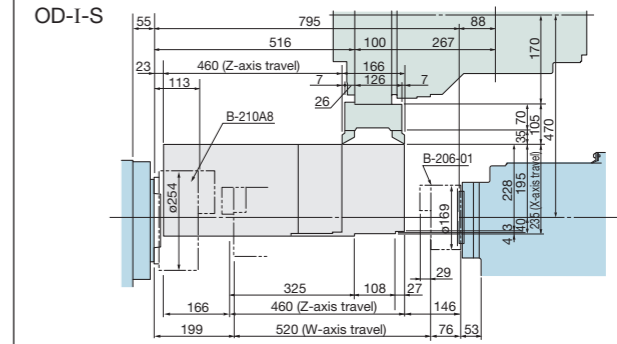
Axial mill/drill unit



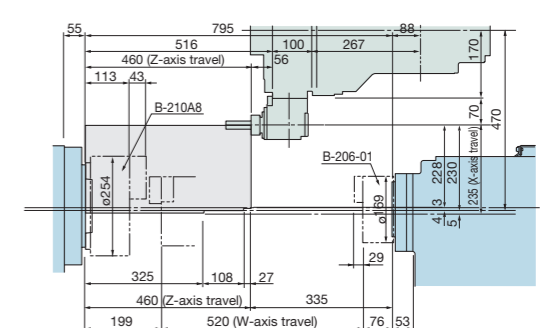
Radial mill/drill unit



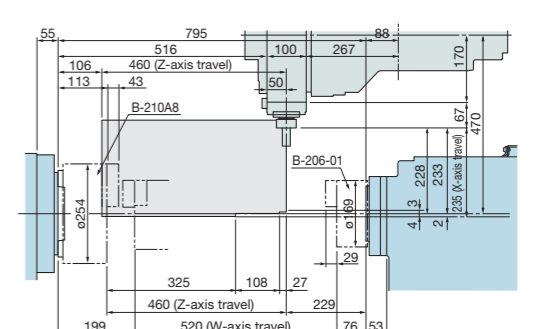
GENOS L300-MYW M-V12 turret (Radial)



Axial mill/drill unit

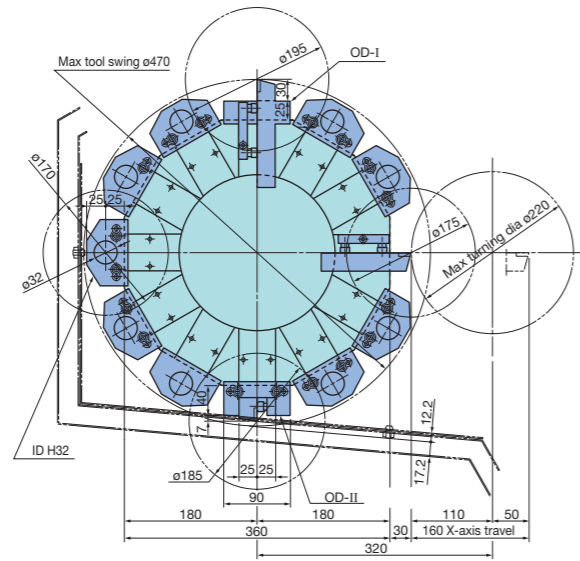


Radial mill/drill unit



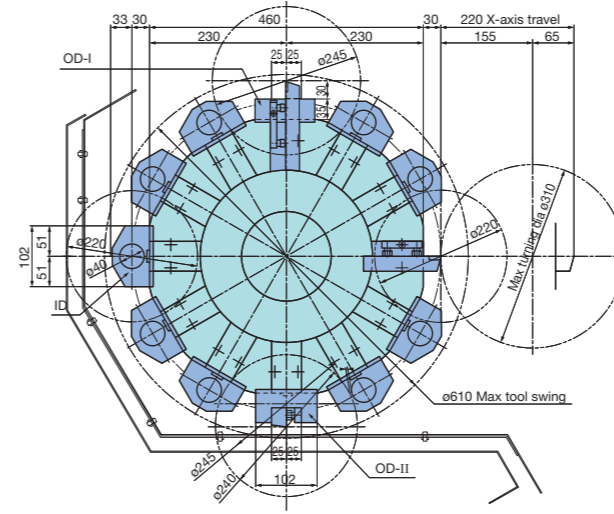
Tool Interference Drawings

GENOS L250/E V12 turret

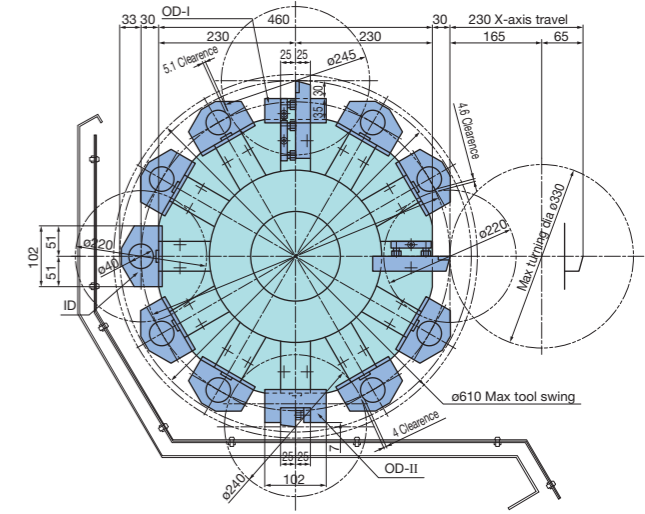


Tool Interference Drawings

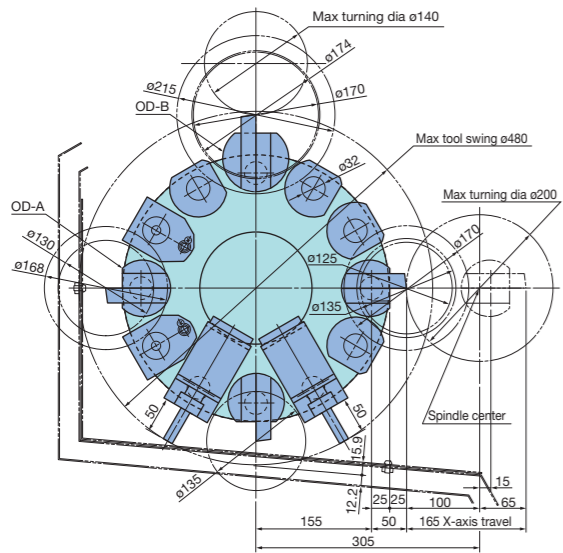
GENOS L400 V12 turret



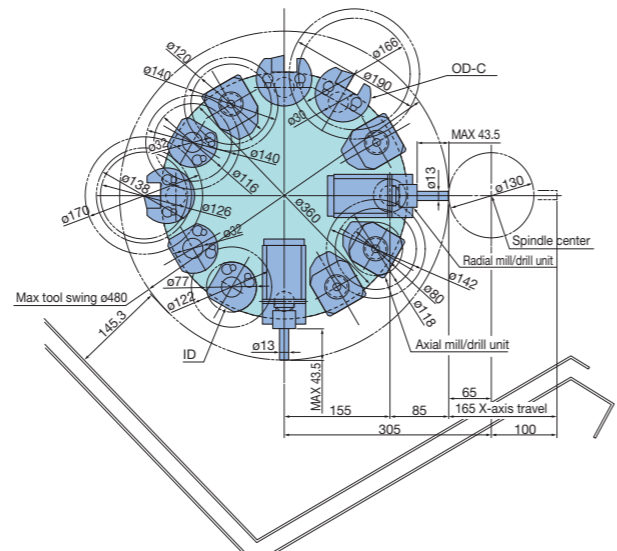
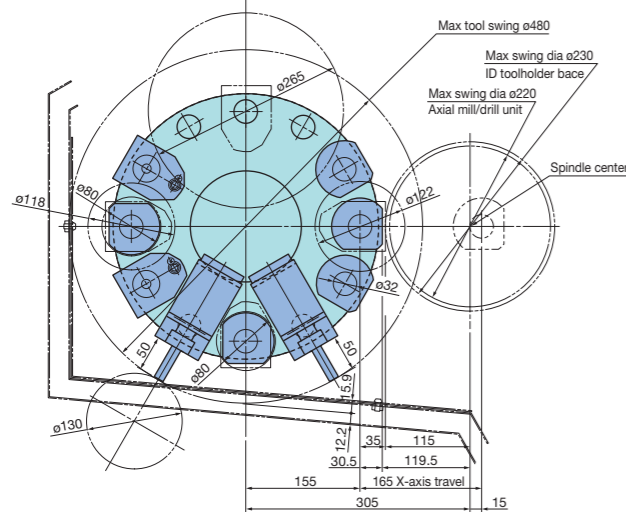
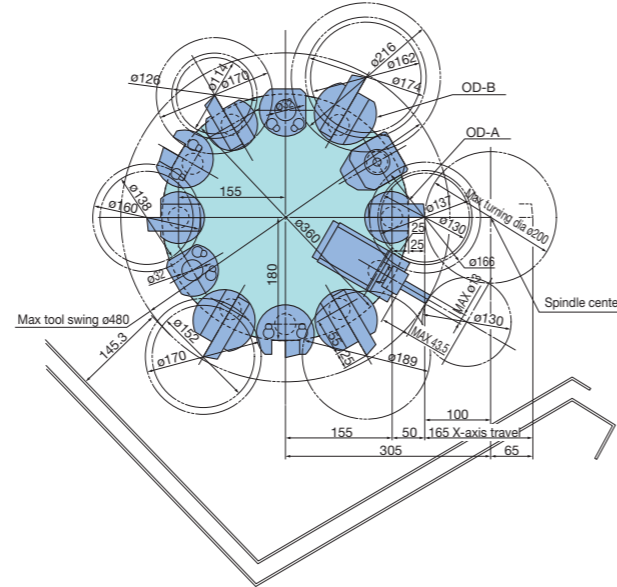
GENOS L400E V12 turret



GENOS L200-M/E-M M-V12 turret (VDI)

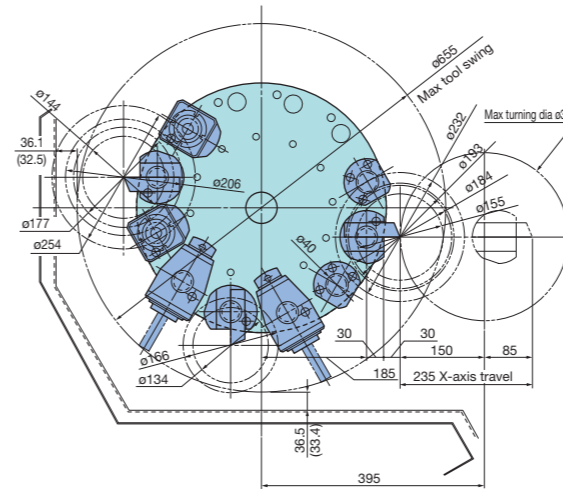


GENOS L200E-MY M-V12 turret (VDI)

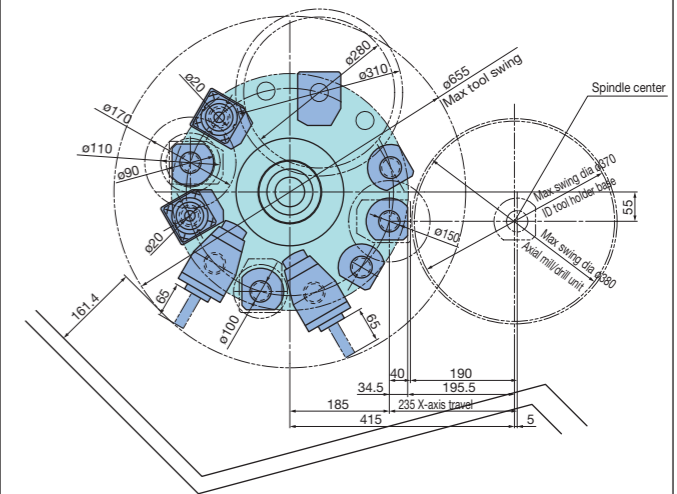
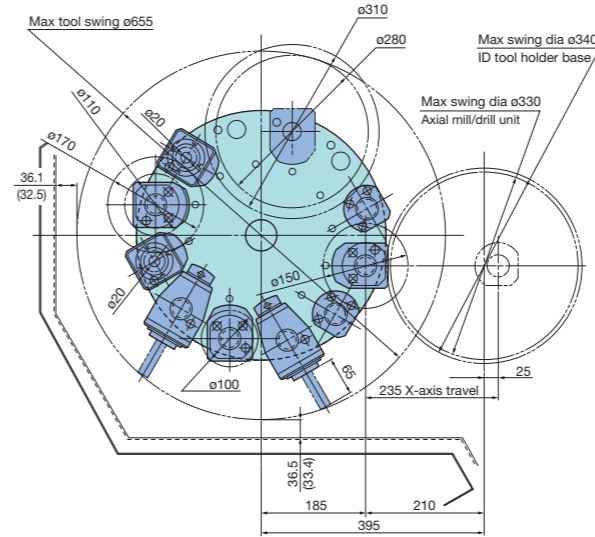
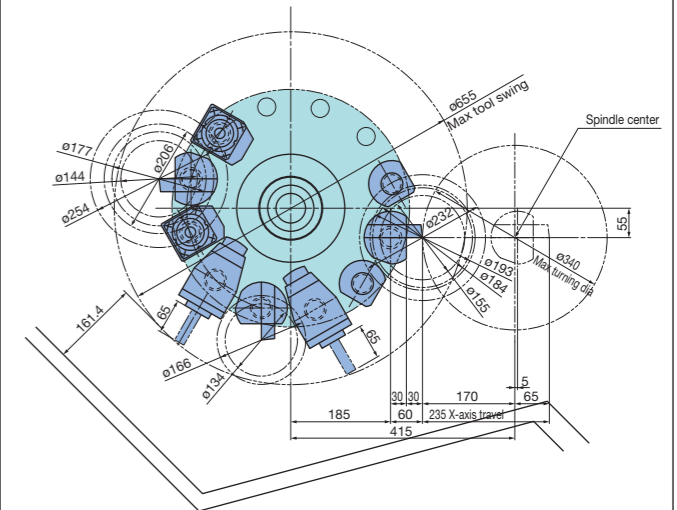


Tool Interference Drawings

GENOS L300-M/E-M M-V12 turret (VDI)
() for L300E-M



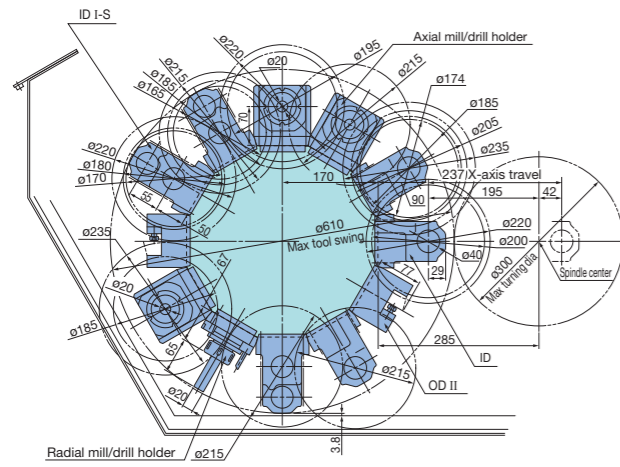
GENOS L300-MY/E-MY M-V12 turret (VDI)



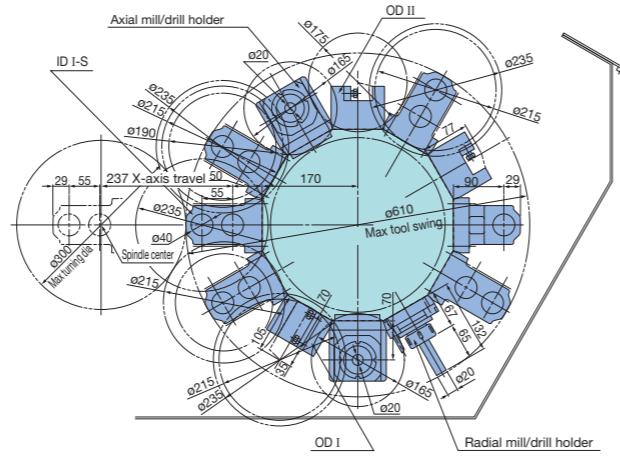
Tool Interference Drawings

GENOS L300-MW M-V12 turret (Radial)

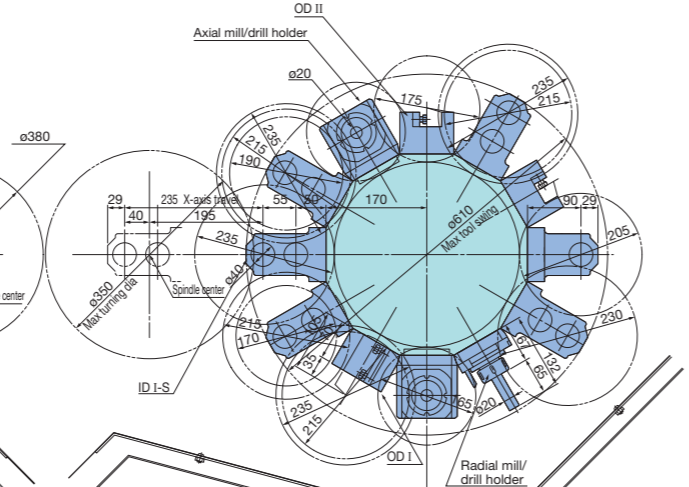
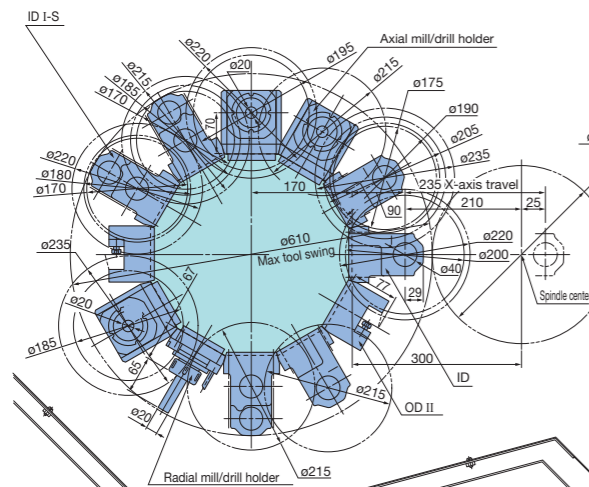
Main



Sub



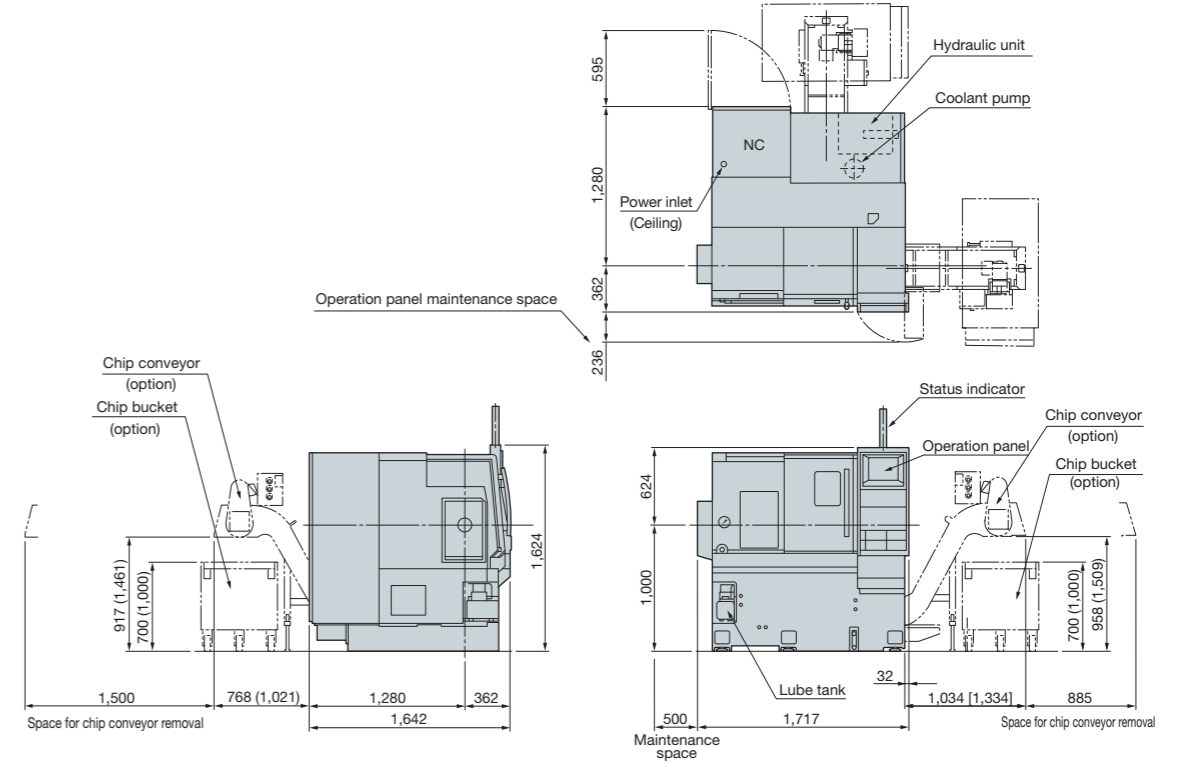
GENOS L300-MYW M-V12 turret (Radial)



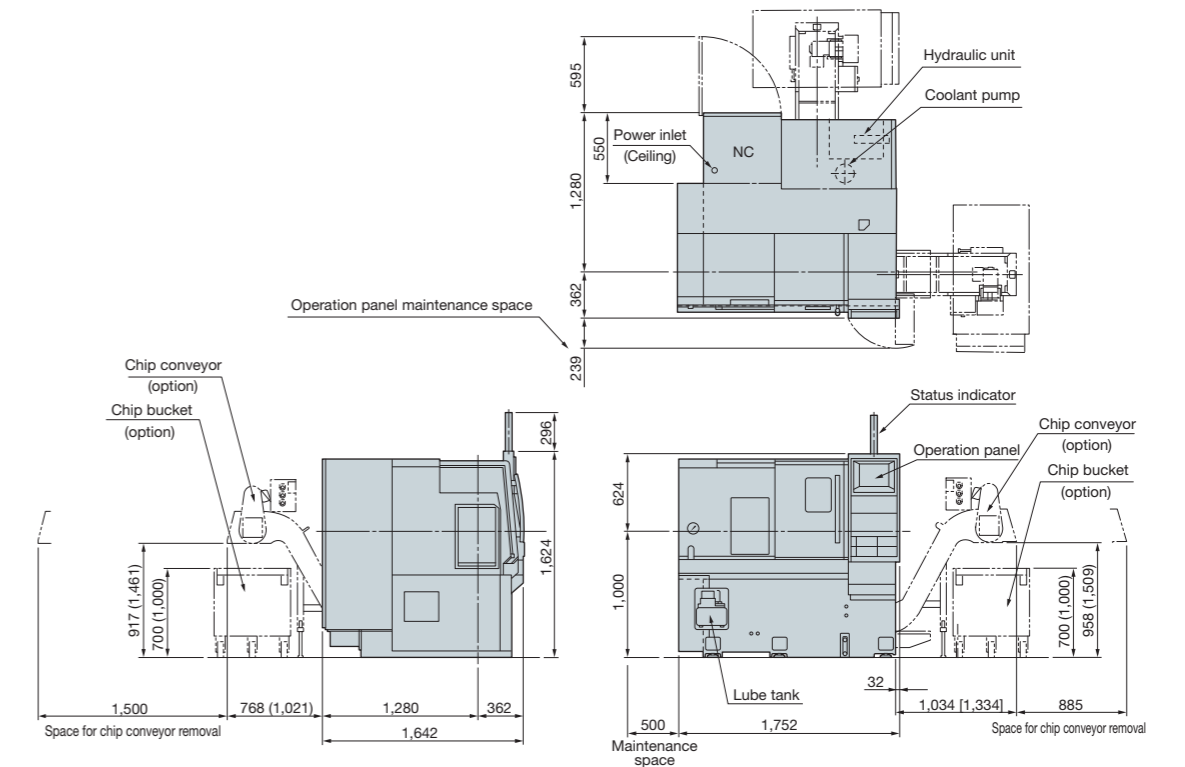
Sub-spindle side tool extension limit (length limit)
 The length of sub-spindle side tool extension is limited because of interference with the turret black oxide coat cover.
 Limit: 75 mm from the datum clamp face of the turret disc back end face holder.

Dimensional Drawings

GENOS L250

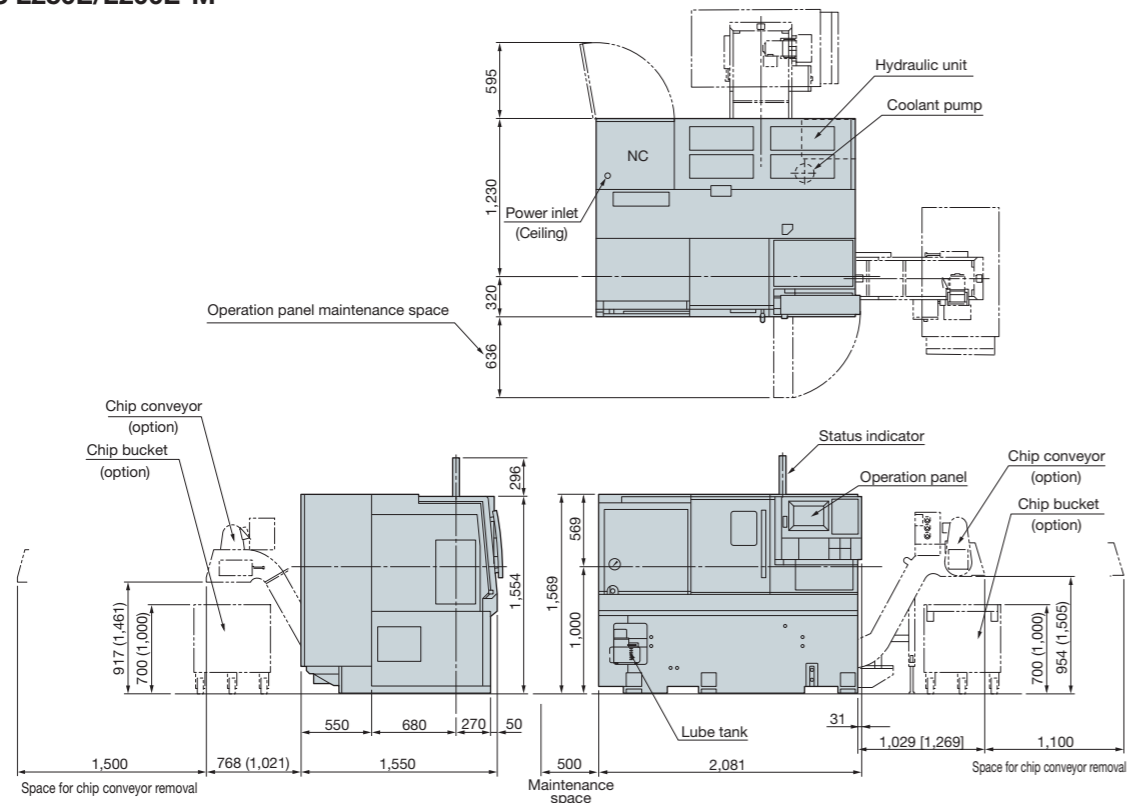


GENOS L200-M

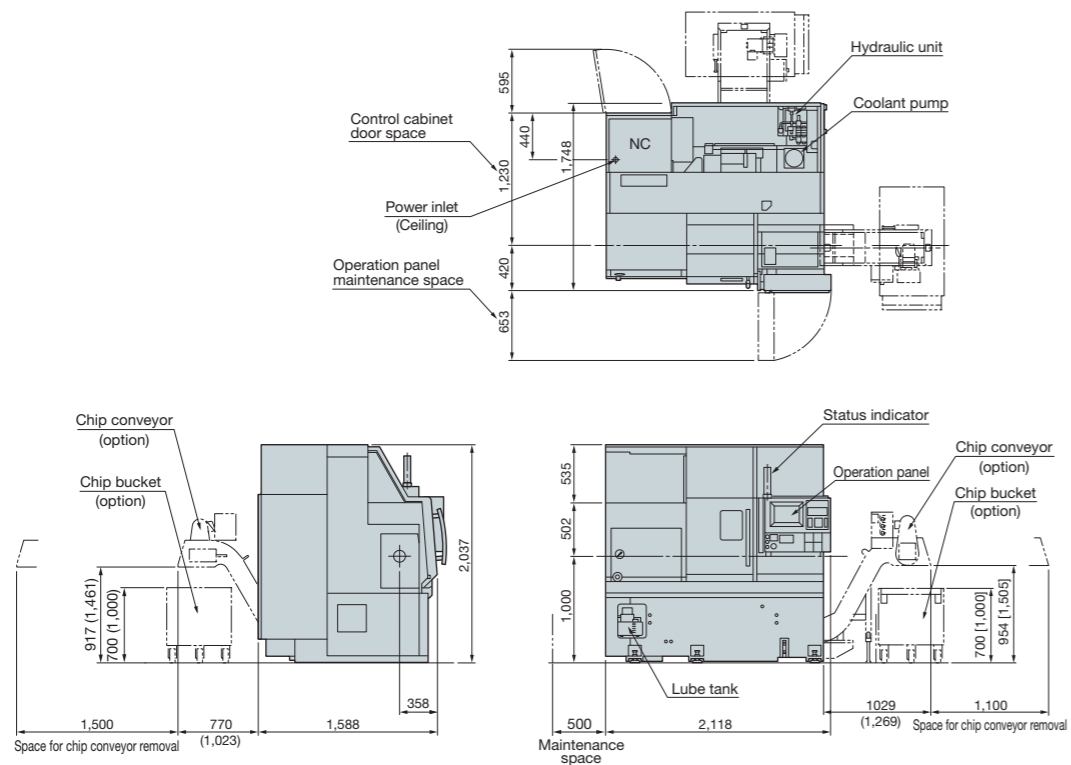


Dimensional Drawings

GENOS L250E/L200E-M

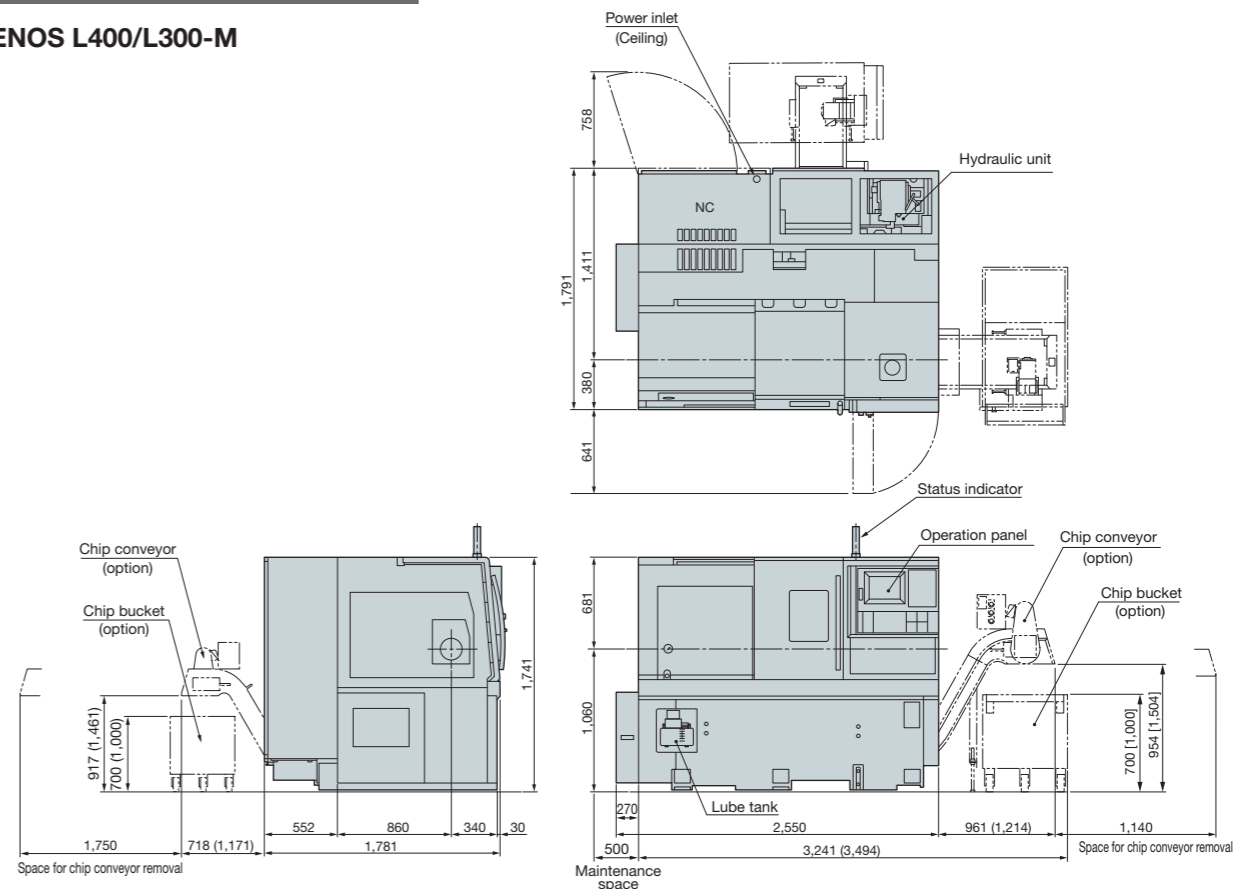


GENOS L200E-MY

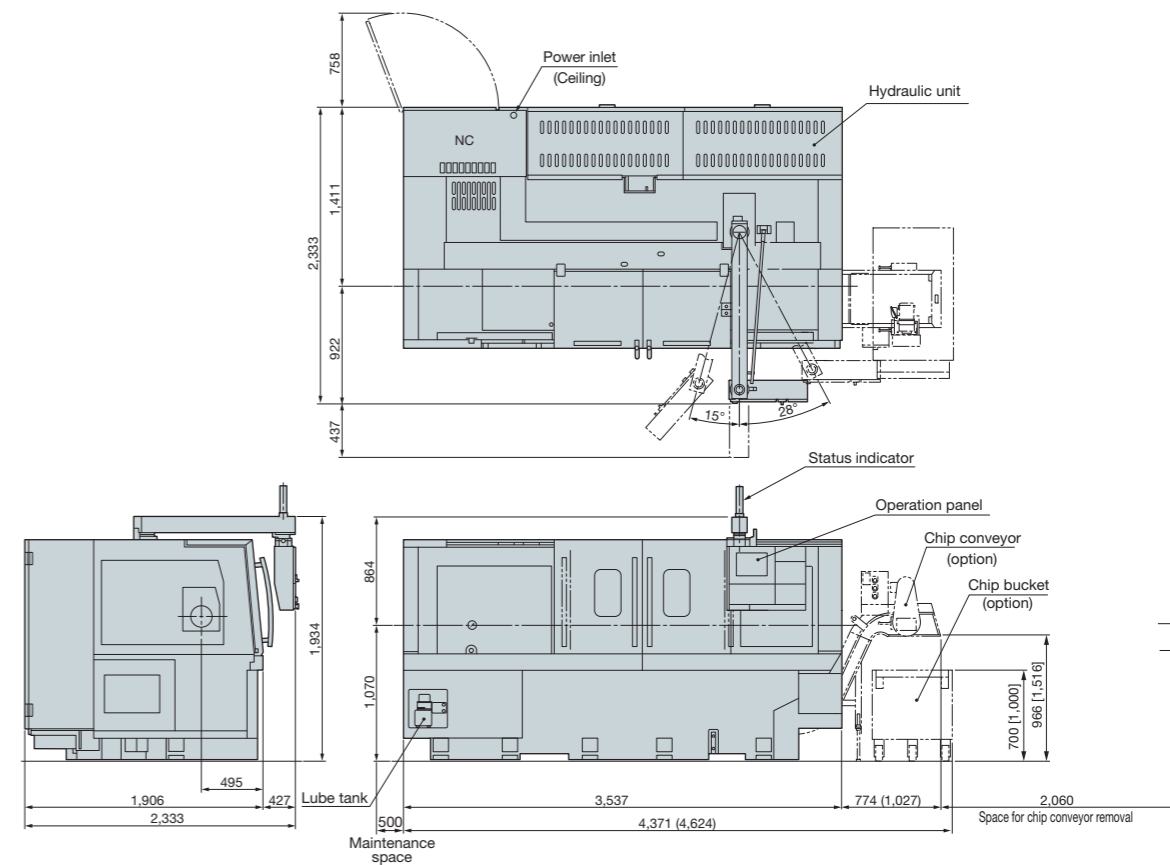


Dimensional Drawings

GENOS L400/L300-M

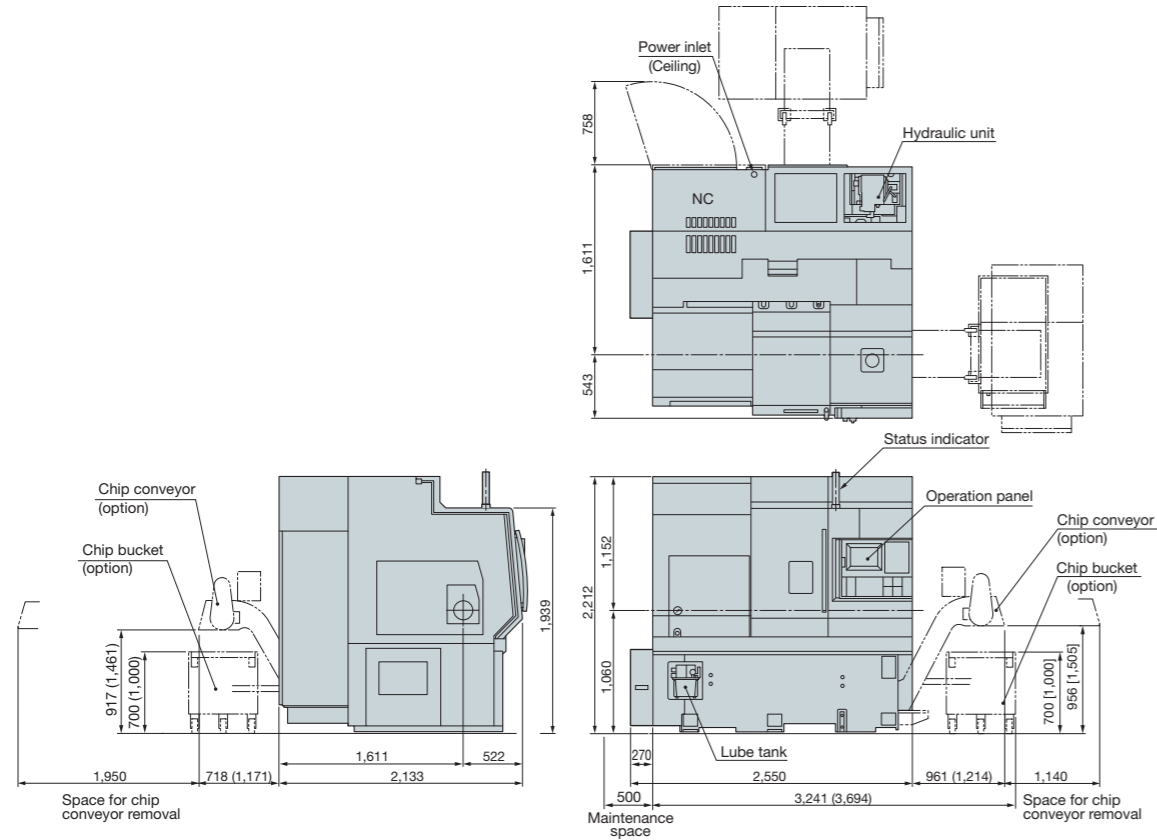


GENOS L400E/L300E-M

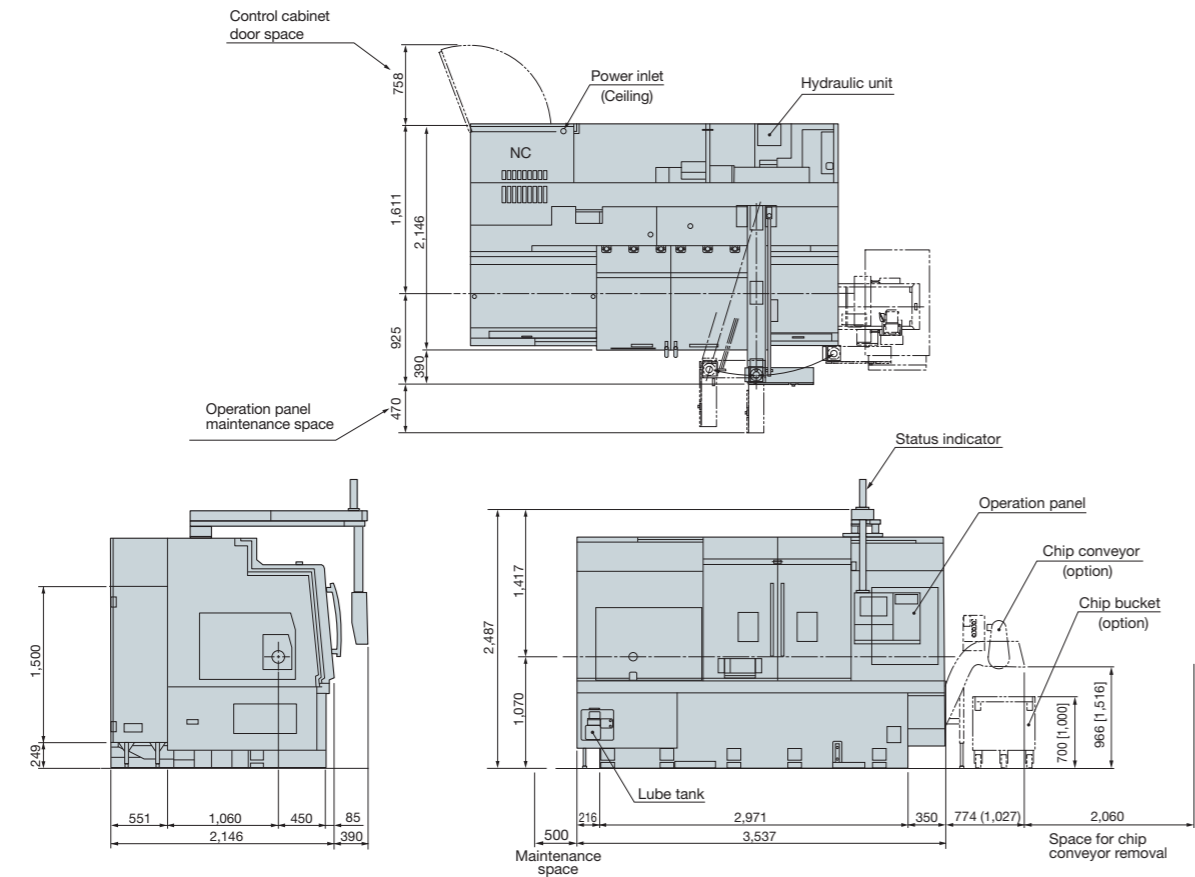


Dimensional Drawings

GENOS L300-MY

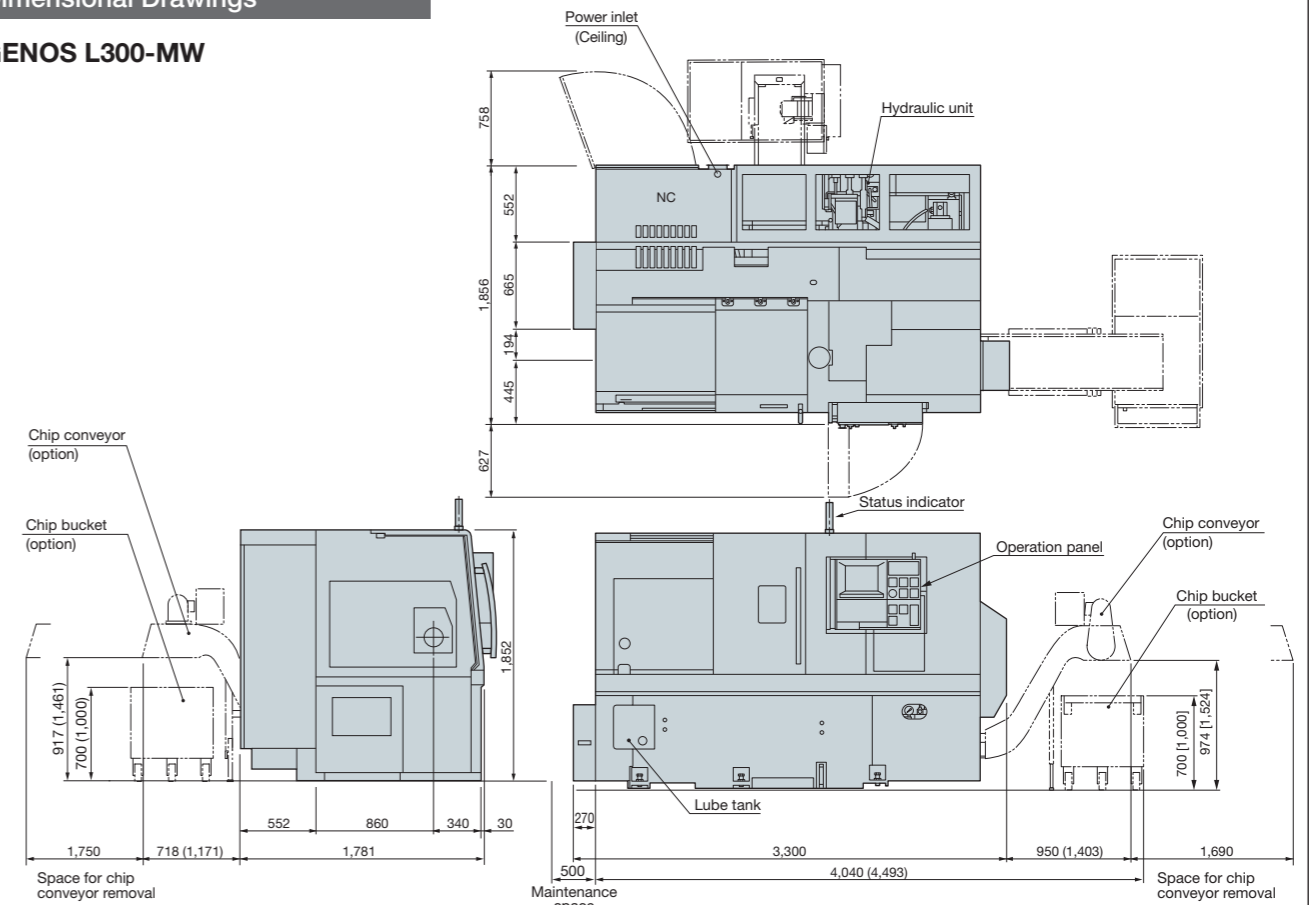


GENOS L300E-MY

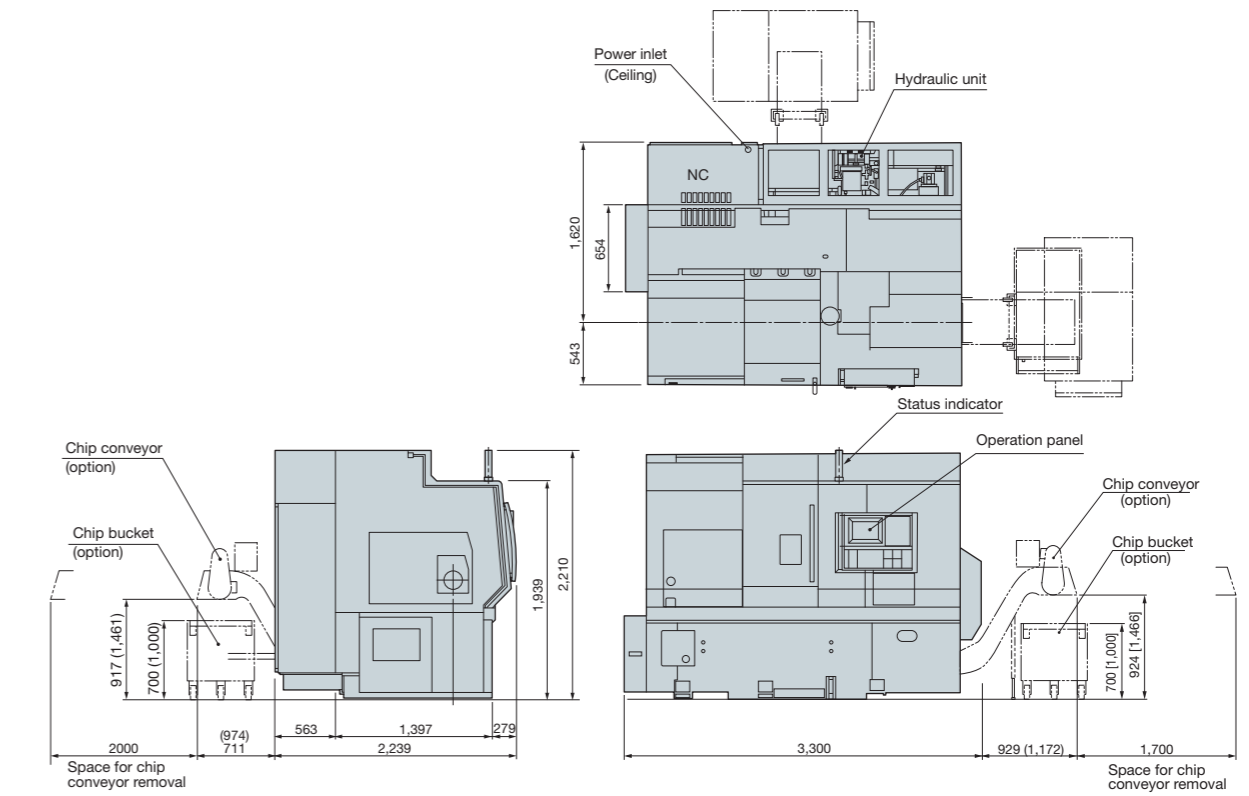


Dimensional Drawings

GENOS L300-MW



GENOS L300-MYW



OSP-P300L-R

Okuma Sampling Path Control

Standard Specifications

Name	Description
■ Features	
Axis control	X, Z simultaneous 2-axis running, X, Z, C simultaneous 3-axis multi-processing
Position feedback	Full range absolute position (zero point return not required)
Tape format	N4.G3, X+53, Z+53, I+53, K+53, F+53, S4, T6, M3
RS-232C interface	RS-232C interface, 1 channel
Programming	Auto ISO/EIA code recognition, absolute, incremental or both
Min command units	X-axis: 1m(dia) Z-axis: 1m C-axis: 0.001°
Max command units	8-digit decimal, ±99999.999mm
Programmable units	Freely selectable: 1μm, 10μm, 1mm
Decimal point data	1μm, 10μm, 1mm increments
Feedrates feed	Feedrates are listed in the machine specs; override: 0~200%, dwell: 0.01~99999.99 sec.
Tooling	Tool selection: 8/12 sets, tool offset(compensation): 32 sets, max compensation value: 99999.999 mm Auto tool compensation: calculated from manually input wear and tear measurement values
Spindle VAC motor operation	Direct spindle speed commands (S4), fixed cutting speed Spindle speed override (50~200%), optimum turning speed designation
M-spindle motor operation (multi-machining)	Direct motor speed input
Display	15" Color display panel, touch panel.
Manual operation	Spindle (inching, CW, CCW), tool rotation, pulse handle, X/Z-axis manual feed
Multitasking	Program writing, editing during work
Self-diagnostics	Automatic diagnostics and display of program, operation, machine and NC system problems
Door interlock	Safety function to interlock machine movement when the door is opened or closed
NC torque limiter	Instant detection of machine collision to reduce machine damage
Hi-G control	Calculates of the speed control and torque properties of a motor for high-speed, high-stability positioning
Thermal deformation prevention	Extremely accurate deformation control
Other	Buffer resistor, zero offset, tool interference, software limit, chuck barrier, turret barrier, droop control, single block machine lock, block delete, optional stop, dry-run, stroke end-limit cancel, etc.

■ Operation

OSP-Win 7	Featuring easy-to-manipulate screen windows, Pop-up function displays, Quick closing windows.
Sequence number search	Cursor advances to a specified sequence number in the selected program
Sequence restart	Restart from an interrupted sequence
Manual interrupt/auto return	Manual operation during automatic operation; return to interrupt point
Threading slide hold	Slide hold during threading (optional for G34/G35 non-fixed cycles)
Programming	Two programs can be edited simultaneously on one screen.
Memory operation*	Tapeless operation: Program storage capacity: 2GB, Operation backup capacity: 2MB
Useful help	Alarm help, G/M-code help, variable help, operation help, diagram display
PLC monitor	Display of PLC ladder drawings and PLC data

■ Output Management Function

Display	Finished work list, operation results and alarm records
External output	Output above items to a USB port.

■ Programming Function

Nose R compensation	Auto compensation for nose R dimension errors including arbitrary shapes and arcs
Arc radius designation	Circular interpolation by ordering the radius L and end points X and Z
Arbitrary angle chamfering	Simple programming of arbitrary angle chamfers (C, R)
Taper angle designation	Taper interpolation by designating either the X or Z-axis and the starting point angle
mm/min (ipm) programming	Both mm/rev and mm/min feedrate units are possible
Program schedule	Non-stop operation possible by setting the sequence order of several work programs
Zero offsets via G-codes	Program zero point offsets are possible
Threading	Thread lead: 0.001~1000.000mm; possible to set the threading lead pitch Chamfering on/off, fix cycle threading, non-fixed threading cycle (the thread lead indicates the CNC limit value, the max thread lead differs per machine specification)
Custom fixed cycle	Threading cycle, grooving cycle, drilling cycle
Fixed drilling cycle (multi-machining)	Drill, deep-hole drilling, boring, tapping
User task 1	GOTO, IF statements, arithmetic, common variable, local variable, system operation variables
Program notes	Comments can be added to programs

Optional Specifications

Name	Description	Kit		
		TE	TD	TEX
■ Programming				
User task 2	Sub-programming, function operations, logic operations I/O variables can be used(each 8 points)	○	○	○
Automatic programming (LAP4)	Add roughing conditions to finish programs for roughing to finish work optimized cutting by matching the best cutting mode with the material shape	○	○	○
Inch/metric switching	Inch, metric switching possible Via parameters		○	○
Arc threading	Threading possible along arc traces			
Tool offset compensation	<input type="checkbox"/> 96 sets <input type="checkbox"/> 200 sets (Standard 32 sets)			
Tool wear compensation	<input type="checkbox"/> 96 sets <input type="checkbox"/> 200 sets (Standard 32 sets)			
Coordinate switching (multi-machining)	Programming possible by changing X, C-axes to X, Y-axis rectangular coordinate system	△	△	△
Work generation (multi-machining)	Programming X, C-axis lines as straight flat surfaces is easy	△	△	△
Advance One touch IGF-L	Quick and simple: even operations without any NC knowledge can input a few keystrokes and be programming in on time Realistic 3D simulated test cut			
Real 3-D simulation	Real time simulation of all machining modes		○	○

■ Monitoring

Condition display	Automatic operation, work completion, alarm conditions displayed with a 3-color (A-type) signal tower	○	○	○
NC operation monitor	Display of cutting, operation, spindle speed, etc., on the LED; workpiece count-up	○	○	○
NC work counter	Counts M30 occurrences (displayed on the LED): alarm-stop at count-up	○	○	○
Tool life management	Automatically calculates workpieces and cutting time, rotates a spare tool in when the set value for the tool life has been reached		○	○
Load monitor	Load conditions are monitored and X, Z-axis and the spindle stop with an alarm			○
Cycle time over check	An alarm occurs after the completion of a set cycle	○	○	○
DNC-T1	Ethernet part program transfers	○	○	○
DNC-T*	Personal computer DNC: Work program transfer, etc.			
Machining Navi L-g	Cutting condition search for turning			

■ Gauging

Auto work gauging/compensation	<input type="checkbox"/> Integral <input type="checkbox"/> External			
Touch setter tool tip	Automatic			

■ Automated Unattended Operation

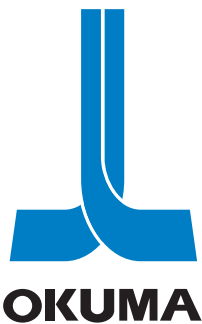
Chuck pressure switching	High/low switching via M-codes			
Tailstock quill pressure switching	High/low tailstock quill thrust switching with M-codes			
Auto door open/close	Auto door open/close via M-codes (w/ interlock ON/OFF switch)			
Air cleaner	An air blower is applied to the chuck area and the tailstock center via M-codes			
Extra M-codes	<input type="checkbox"/> 2 sets <input type="checkbox"/> 4 sets			
Auto power shut-off	Power supply is shut off automatically according to M30 and alarm conditions			
Cycle time reduction	Possible to ignore a various of answers with M-codes	○	○	○
Other*	<input type="checkbox"/> Chuck open/close during spindle rotation <input type="checkbox"/> Auto tailstock quill thrust during spindle rotation <input type="checkbox"/> Bar feeder interface <input type="checkbox"/> Loader interface <input type="checkbox"/> OSP-VPS (Virus Protection System)			

* Need to discuss with sales engineer △ Multi-machining Corresponding ○ Kit Corresponding

GENOS

The origin of gene, from Greek *genos*
meaning race, offspring, origin
(pronounced “γένος” as in “generous”)

Global
Efficient
No.1
Standard



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When using Okuma products,
always read the safety precautions
mentioned in the instruction
manual and attached to the
product.

- The specifications, illustrations, and descriptions in this brochure vary in different markets and are subject to change without notice. Consult your local Okuma representative for specific end-user requirements.